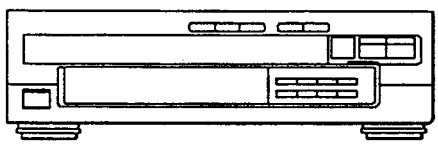
aiwa

# DX-Z950M
# DX-Z7000M

SERVICE MANUAL



COMPACT DISC PLAYER

• BASIC CD MECHANISM : KSM – 2101ABM • TYPE.YJ (Z950M) Y (Z7000M)

DX – Z950M, DX – Z7000M is the Compact Disc Players which is connected to below systems.

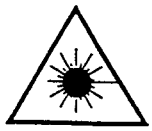
| | | | |
|---|---|---|---|
| • Z – 550M | • Z – 850M | • Z – 890M | • Z – D3000M |
| • Z – 750M | • Z – 860M | • Z – 900M | • Z – D5000M |
| • Z – 760M | • Z – 880M | • Z – 1000M | • Z – D7000M |

S/M Code No. 0213 DATE OF ISSUE 2/1993 – T

# PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

**WARNING!!**
WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion.
  Undgå udsættelse for stråling.

**VAROITUS!**
Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

**VARNING!**
Om apparaten används på annat sätt än vad som specificeras i denna bruksanvisning, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.

**CAUTION**
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

**ATTENTION**
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

CLASS 1
LASER PRODUCT

LUOKAN 1
LASERLAITE

KLASS 1
LASER APPARAT

# SPECIFICATIONS

| | |
|---|---|
| **Disc** | Compact disc |
| **Scanning method** | Non-contact optical scanner (semiconductor laser application) |
| **Laser** | Semiconductor laser ($\lambda$ = 750-800 nm) |
| **Rotation speed** | Approx. 500 rpm – 200 rpm (CLV) |
| **Error correction** | Cross Interleave, Reed Solomon code |
| **No. of channels** | 2 channels |
| **D-A conversion** | 1-bit DAC |
| **Wow/Flutter** | Unmeasurable |
| **Signal to noise ratio** | 92 dB (1 kHz, 0 dB) |
| **Harmonic distortion** | 0.01% (1 kHz, 0 dB) |
| **Low pass filter** | 8 times digital filter + active filter |
| **Power consumption** | 15 W |
| **Dimensions (W×H×D)** | 360 × 98.5 × 308 mm (14 1/4 × 4 × 12 1/4 in) |
| **Weight** | 3.8 kg (8.4 lb) |

• Design and specifications are subject to change without notice.

## ALTERLATION PARTS LIST

| REF. NO. | PART NO. | DESCRIPTION |
|---|---|---|
| ===IC=== | | |
| | 82-VM1-601-110 | IC, CXP50120-159Q |

## ■ ACCESSORIES/PACKAGE LIST

| PART NO. CHANGED TO | REF. NO. | PART NO. | DESCRIPTION | COMMON MODEL | Q,TY |
|---|---|---|---|---|---|
| | 1 | ★82-VM1-901-218 | IB (Y NE) | | 1 |
| | 2 | ★82-VM1-902-110 | IB (Y) | | 1 |
| | 3 | ★82-VM1-903-119 | IB (YJ) | | 1 |
| | 4 | ★82-VM1-905-018 | IB (Z7000M) | | 1 |
| | | | | | 1 |

## DISSASEMBLY INSTRUCTIONS

1. "Cabinet, Steel" Removal (See Figure-1)
   1) Remove 5 screws (Ⓐ) and remove "Cabinet, Steel".

2. "Cabinet, Front" Removal (See Figure-1)
   1) Remove 5 screws (Ⓑ× 4, Ⓒ× 1) and remove the "Cabinet, Front".

3. "Panel, Rear" Removal (See Figure-1)
   1) Remove 4 screws (Ⓓ) and remove the "Panel, Rear".

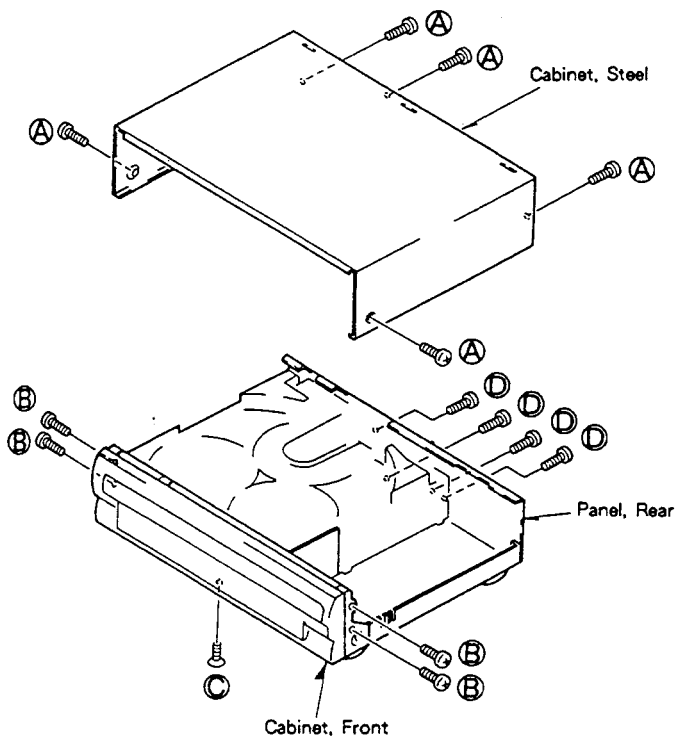



Fig – 1

4. "Mechanism ASSY" Removal (See Figure-2)
   1) Remove 5 screws (Ⓐ) and remove the "Mechanism ASSY".

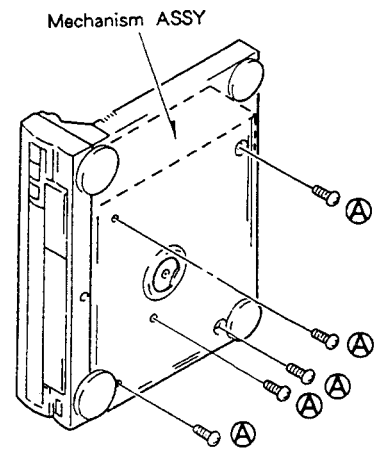



Fig – 2

5. "Main Circuit Board" Removal (See Figure – 3)
   1) Remove 6 hooks unsolder the soldered points and raise the "Main Circuit Board".
   2) Remove 8 connectors and remove the "Main Circuit Board" in the direction of the arrow.

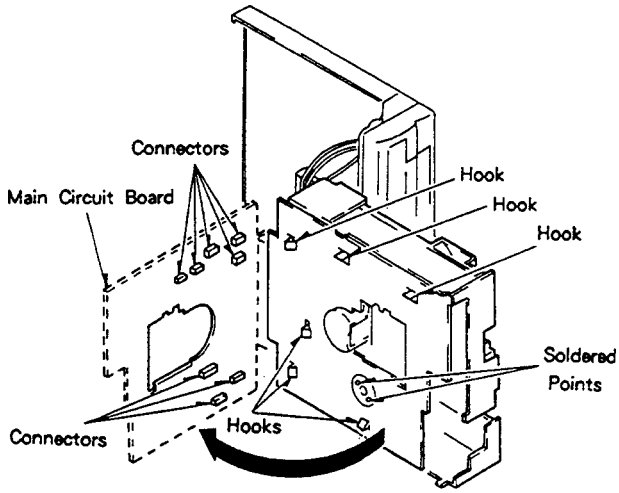



Fig – 3

6. "Tray" Removal (See Figure – 4)
   1) Open the "Tray".
   ★ To open manually
   Turn gear in the direction of arrow ① with your fingers.
   ★To open automatically
   Connect the power supply to the loading motor and open the "Tray".
   2) While pushing the hook in the direction of the arrow ② as shown in the figure, remove the "Tray" in the direction of arrow ③.
   3) Remove screw (Ⓐ) and remove the "Turntable".

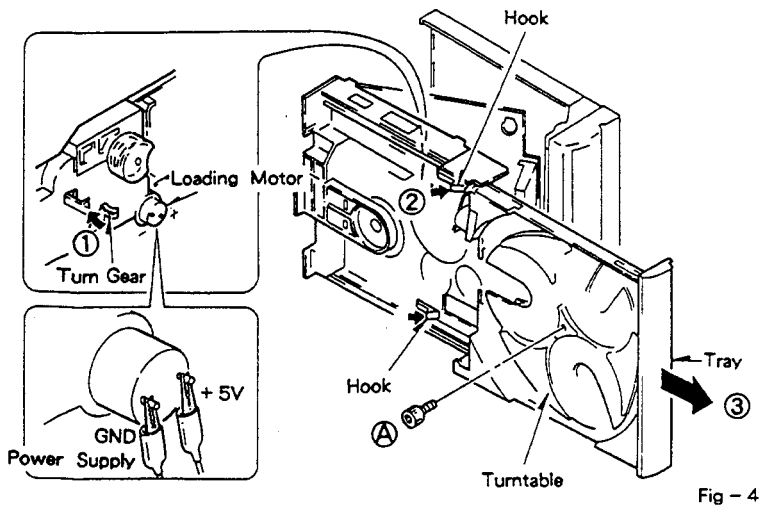
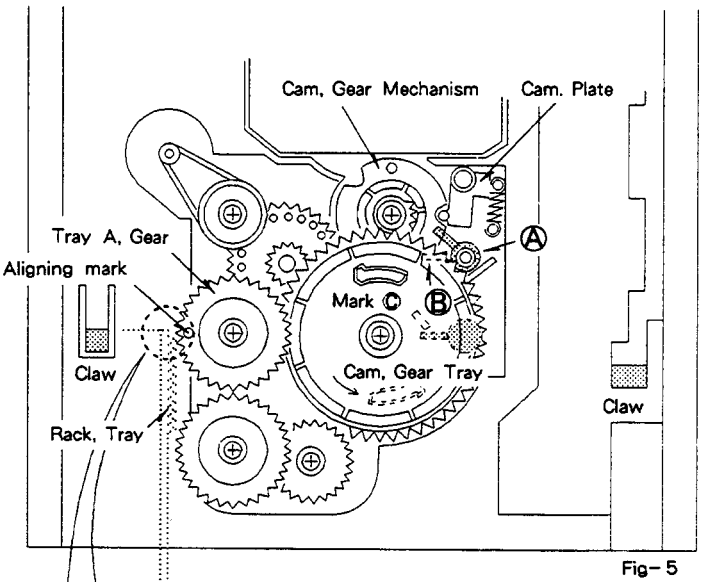


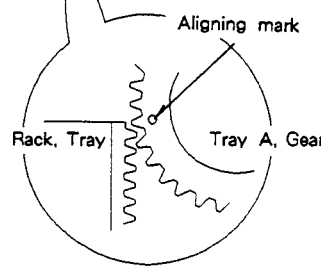

Fig – 4

7. "Tray" and Each Gear Setting (See Figure – 5)
   1) Align the "Cam, Gear Mechanism" and "Cam, Plate" as shown in the figure.
   2) Adjust SW so that it comes to position Ⓐ when performing.
   3) Attach "Cam, Gear Tray" so that mark Ⓒ is positioned as shown in the figure.
   4) Insert "Tray" so that the aligning mark of "Tray A, Gear" is opposite the first tooth of "Rack, Tray".

   Note) If SW is at position Ⓑ (when "Tray" is open.), reset the cams so that SW comes to position Ⓐ.
   If SW is not positioned correctly, "Tray" and chucking do not work well.

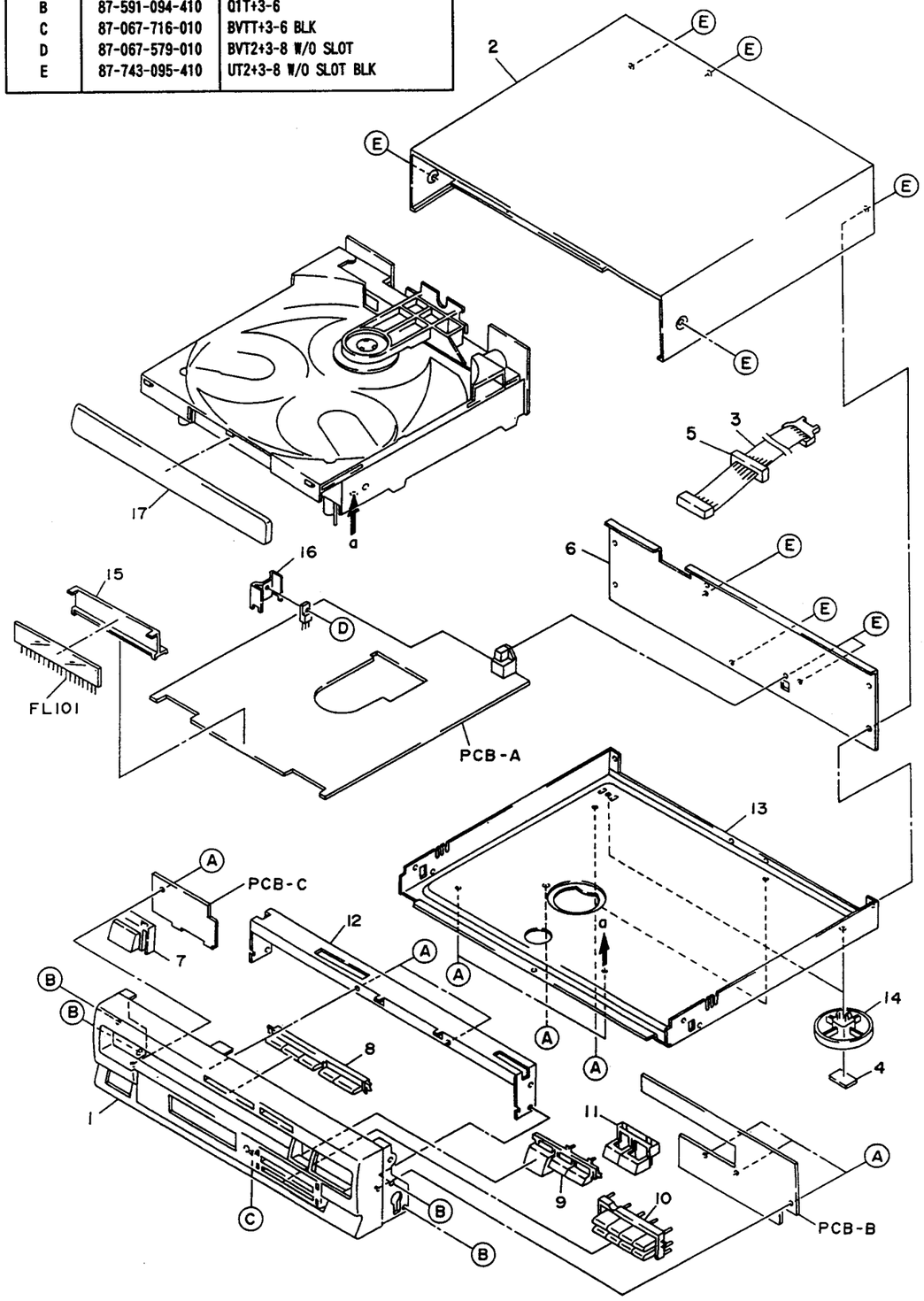



Fig– 5



## EXPLODED VIEW – 1

| REF. NO. | PART NO. | DESCRIPTION |
|---|---|---|
| A | 87-067-703-010 | BVT2+3-10 W/O SLOT |
| B | 87-591-094-410 | Q1T+3-6 |
| C | 87-067-716-010 | BVTT+3-6 BLK |
| D | 87-067-579-010 | BVT2+3-8 W/O SLOT |
| E | 87-743-095-410 | UT2+3-8 W/O SLOT BLK |





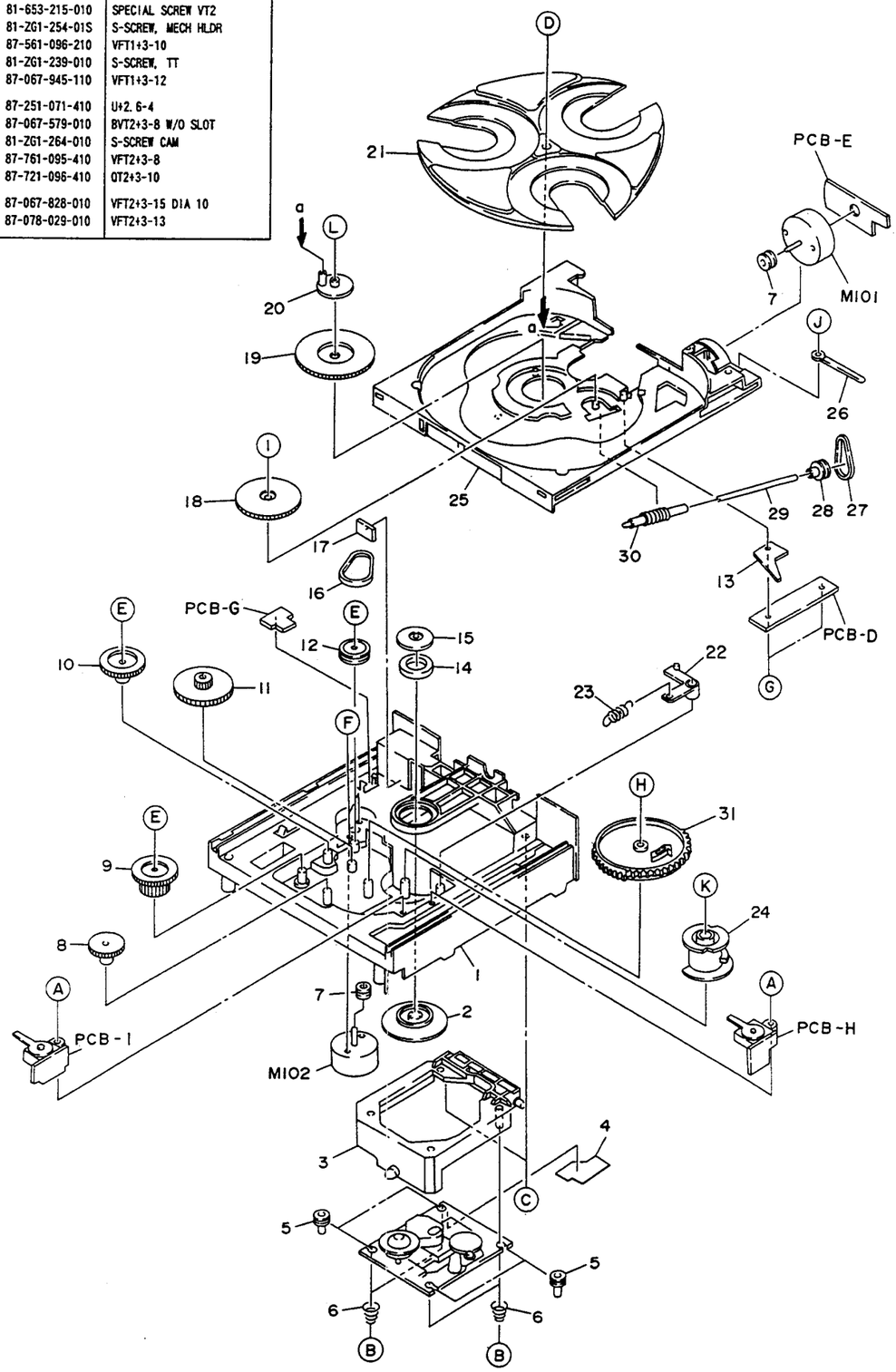

## MECHANICAL PARTS LIST

DESCRIPTIONで判断できない物は最終ページの "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

| PART NO. CHANGED TO | REF. NO. | PART NO. | DESCRIPTION | COMMON MODEL | Q,TY |
|---|---|---|---|---|---|
| | 1-1 | ★09-057-175-010 | CAB, FRONT ASSY (Z950M YJ) | ※ | 1 |
| | 1-1 | ★09-057-185-010 | CAB, FRONT ASSY (Z7000M) | ※ | 1 |
| | 1-2 | ★82-VM1-002-010 | CAB, STEEL (Z950M YJ) | ※ | 1 |
| | 1-2 | ★82-VM1-021-018 | CAB, STEEL (Z7000M) | ※ | 1 |
| | 1-3 | ★89-VX5-618-010 | FLAT CABLE 11P FG | | 1 |
| | 1-4 | ★81-VW1-201-010 | FELT 20 – 15 – 2 | | 2 |
| | 1-5 | ★89-VT5-202-010 | BUSHING, CORD | | 1 |
| | 1-6 | ★82-VM1-013-219 | PANEL, REAR YJBN (Z950M YJ) | ※ | 1 |
| | 1-6 | ★82-VM1-027-019 | PANEL, REAR YBNE (Z7000M) | ※ | 1 |
| | 1-7 | ★82-VM1-007-010 | KEY, POWER | ※ | 1 |
| | 1-8 | ★82-VM1-006-010 | KEY, DISC | ※ | 1 |
| | 1-9 | ★82-VM1-005-010 | KEY, SEARCH | ※ | 1 |
| | 1-10 | ★82-VM1-008-010 | KEY, PRGM | ※ | 1 |
| | 1-11 | ★82-VM1-004-010 | KEY, PLAY | ※ | 1 |
| | 1-12 | --- | CHAS, FR | | 1 |
| | 1-13 | --- | CHAS, MAIN | | 1 |
| | 1-14 | ★81-VX1-012-019 | FOOT, REAR | | 2 |
| | 1-15 | ★81-VM1-203-010 | GUIDE, FL | | 1 |
| | 1-16 | --- | HT – SINK | | 1 |
| | 1-17 | ★82-VM1-010-010 | PANEL, TRAY | ※ | 1 |

## EXPLODED VIEW – 2

| REF. | PART NO. | DESCRIPTION |
|---|---|---|
| A | 81-653-215-010 | SPECIAL SCREW VT2 |
| B | 81-ZG1-254-01S | S-SCREW, MECH HLDR |
| C | 87-561-096-210 | VFT1+3-10 |
| D | 81-ZG1-239-010 | S-SCREW, TT |
| E | 87-067-945-110 | VFT1+3-12 |
| F | 87-251-071-410 | U+2.6-4 |
| G | 87-067-579-010 | BVT2+3-8 W/O SLOT |
| H | 81-ZG1-264-010 | S-SCREW CAM |
| I | 87-761-095-410 | VFT2+3-8 |
| J | 87-721-096-410 | OT2+3-10 |
| K | 87-067-828-010 | VFT2+3-15 DIA 10 |
| L | 87-078-029-010 | VFT2+3-13 |

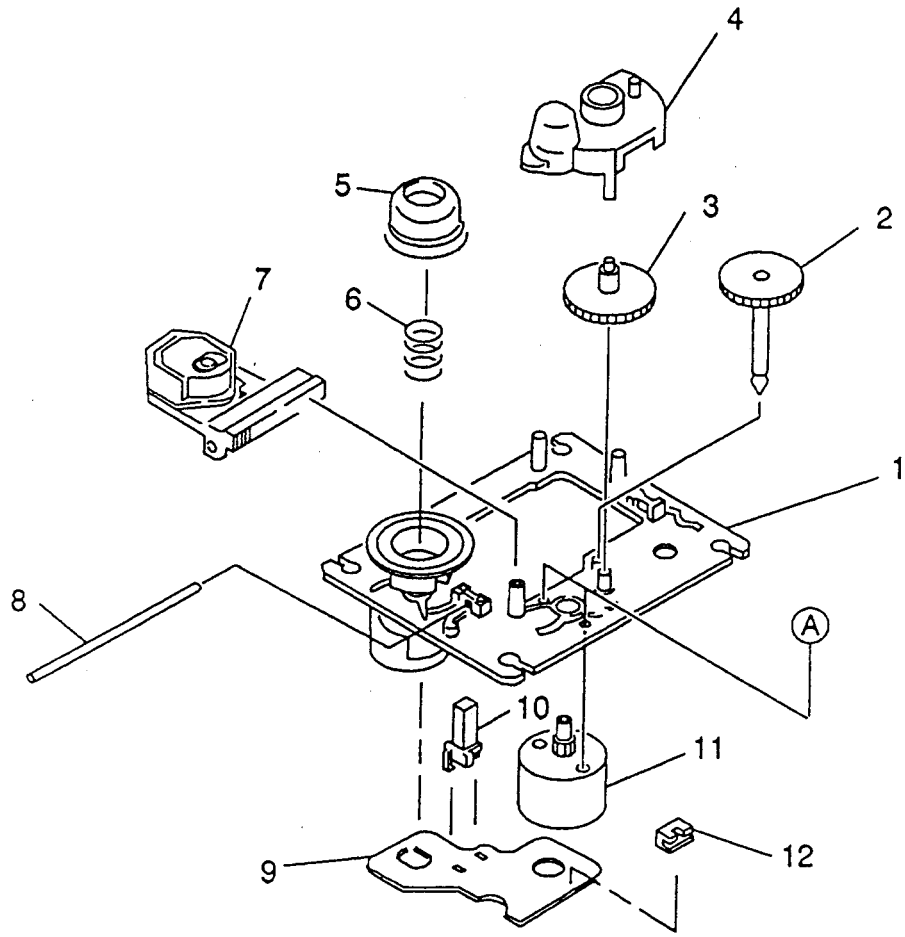





| PART NO. CHANGED TO | REF. NO. | PART NO. | DESCRIPTION | COMMON MODEL | Q.TY |
|---|---|---|---|---|---|
| | 2-1 | ★81-ZG1-243-119 | CHAS, MECH NO2 | | 1 |
| | 2-2 | ★81-ZG1-228-010 | HLDR, MAGNET | | 1 |
| | 2-3 | ★81-ZG1-253-01S | HLDR MECH MK2 | | 1 |
| | 2-4 | ★81-ZG1-241-010 | SH, CD MECH | | 1 |
| | 2-5 | ★81-ZG1-230-010 | G – CUSH, MECH | | 4 |
| | 2-6 | ★81-ZG1-231-010 | SPR – C, MECH | | 4 |
| | 2-7 | ★81-ZG1-212-010 | PULLY, LOAD MO | | 2 |
| | 2-8 | ★81-ZG1-250-019 | GEAR, TRAY RELAY MK2 | | 1 |
| | 2-9 | ★81-ZG1-257-019 | GEAR, TRAY B MK2 | | 1 |
| | 2-10 | ★81-ZG1-256-019 | GEAR, TRAY A MK2 | | 1 |
| | 2-11 | ★81-ZG1-251-019 | GEAR, RELAY MK2 | | 1 |
| | 2-12 | ★81-ZG1-211-010 | PULLEY, RELAY | | 1 |
| | 2-13 | ★81-ZG1-240-010 | SPR – P, WORM | | 1 |
| | 2-14 | ★86-531-219-010 | MAGNET, CLAMPER | | 1 |
| | 2-15 | ★81-ZG1-255-01S | PLATE, MAGNET MK2 | | 1 |
| | 2-16 | ★81-ZG1-232-010 | BELT, TRAY | | 1 |
| | 2-17 | ★81-ZG1-238-010 | CUSH, TRAY IN | | 1 |
| | 2-18 | ★81-ZG1-222-010 | WORM WHEEL, TT | | 1 |
| | 2-19 | ★81-ZG1-202-010 | GEAR, MAIN | | 1 |
| | 2-20 | ★81-ZG1-252-010 | LEVER, TT MK2 | | 1 |
| | 2-21 | ★81-ZG1-008-119 | TURNTABLE, NO2 | | 1 |
| | 2-22 | ★81-ZG1-213-010 | PLATE, CAM | | 1 |
| | 2-23 | ★81-ZG1-235-010 | SPR – E CAM | | 1 |
| | 2-24 | ★81-ZG1-206-010 | GEAR, MECH CAM | | 1 |
| | 2-25 | ★81-ZG1-011-019 | TRAY, MK2 | | 1 |
| | 2-26 | ★87-038-039-010 | WIRE BINDER | | 1 |
| | 2-27 | ★81-ZG1-233-110 | BELT, TT | | 1 |
| | 2-28 | ★81-ZG1-236-010 | PULLEY, TT MO | | 1 |
| | 2-29 | ★81-ZG1-260-019 | SHAFT, WORM S | | 1 |
| | 2-30 | ★81-ZG1-221-010 | WORM GEAR, TT | | 1 |
| | 2-31 | ★81-ZG1-205-110 | GEAR, TRAY CAM | | 1 |

## EXPLODED VIEW – 3

| REF. NO. | PART NO. | DESCRIPTION |
|---|---|---|
| A | 87-261-032-210 | V+2-3 |




| PART NO. CHANGED TO | REF. NO. | PART NO. | DESCRIPTION | COMMON MODEL | Q,TY |
|---|---|---|---|---|---|
| | 3-1 | ★9X-262-513-310 | TT CHASSIS ASSY (W/MOTOR) | | 1 |
| | 3-2 | ★92-625-188-020 | GEAR, A | | 1 |
| | 3-3 | --- | GEAR, B | | 1 |
| | 3-4 | ★92-625-544-010 | COVER | | 1 |
| | 3-5 | 92-625-187-010 | RING, CENTER | | 1 |
| | 3-6 | ★92-625-191-010 | SPRING, COMPRESSION | | 1 |
| | 3-7 | 98-848-127-110 | PICK UP KSS-210A | | 1 |
| | 3-8 | ★94-917-565-010 | SHAFT, SLED | | 1 |
| | 3-9 | --- | MOTOR PWB | | 1 |
| | 3-10 | 91-572-085-110 | SWITCH, LEAF (LIMIT) | | 1 |
| | 3-11 | ★9X-262-513-210 | SLED MOTOR ASSY | | 1 |
| | 3-12 | ★91-564-722-110 | CONNECTOR 6P | | 1 |

# REFERENCE NAME LIST

## ELECTRICAL SECTION

| DESCRIPTION | REFERENCE NAME |
|---|---|
| ANT | ANTENNAS |
| C- | CHIP |
| C-CAP | CAP, CHIP |
| C-CAP TN | CAP, CHIP TANTALUM |
| C-COIL | COIL, CHIP |
| C-DI | DIODE, CHIP |
| C-DIODE | DIODE, CHIP |
| C-FET | FET, CHIP |
| C-FOTR | FILTER, CHIP |
| C-JACK | JACK, CHIP |
| C-LED | LED, CHIP |
| C-RES | RES, CHIP |
| C-SFR | SFR, CHIP |
| C-SLIDE SW | SLIDE SWITCH, CHIP |
| C-SW | SWITCH, CHIP |
| C-TR | TRANSISTOR, CHIP |
| C-VR | VOLUME, CHIP |
| C-ZENER | ZENER, CHIP |
| CAP, CER | CAP, CERA-SOL |
| CAP, E | CAP, ELECT |
| CAP, M/F | CAP, FILM |
| CAP, TC | CAP, CERA-SOL |
| CAP, TC-U | CAP, CERA-SOL SS |
| CAP, TN | CAP, TANTALUM |
| CERA FIL | FILTER, CERAMIC |
| CF | FILTER, CERAMIC |
| DL | DELAY LINE |
| E/CAP | CAP, ELECT |
| ECM | ECM |
| FLTR | FILTER |
| FUSE RES | RES, FUSE |
| MOT | MOTOR |
| P-DIODE | PHOTO DIODE |
| P-SNSR | PHOTO SENSER |
| P-TR | PHOTO TRANSISTOR |
| POLY VARI | VARIABLE CAPACITOR |
| PPCAP | CAP, PP |
| PT | POWER TRANSFORMER |
| PTR, RES | PTR, MELF |
| RC | REMOTE CONTROLLER |
| RES NF | RES, NON-FLAMMABLE |
| RESO | RESONATOR |
| SHLD | SHIELD |
| SOL | SOLENOID |
| SPKR | SPEAKER |
| SW, LVR | SWITCH, LEVER |
| SW, RTRY | SWITCH, ROTARY |
| SW, SL | SWITCH, SLIDE |
| THMS | THERMISTOR |
| TR | TRANSISTOR |
| TRIMMER | CAP, TRIMMER |
| TUN-CAP | VARIABLE CAPACITOR |
| VIB, CER | RESONATOR, CERAMIC |
| VIB, XTAL | RESONATOR, CRYSTAL |
| VR | VOLUME |
| ZENER | DIODE, ZENER |
| ｻｰｼﾞｻﾌﾟﾚｯｻ | SERGESUPPRESSOR |
| ｾﾗｺﾝ | CAP, CERA |

| サービス技術ニュース | |
|---|---|
| 番号 | 連絡内容 |
| G－ － | |
| G－ － | |
| G－ － | |

## MECHANICAL SECTION

| DESCRIPTION | REFERENCE NAME |
|---|---|
| ADHESHIVE | SHEET ADHESHIVE |
| AZ | AZIMUTH |
| BAR-ANT | BAR-ANTENNA |
| BAT | BATTERY |
| BAT, CONTACT ASSY | BATTERY CONTACT ASSY |
| BATT | BATTERY |
| BRG | BEARING |
| BTN | BUTTON |
| CAB | CABINET |
| CASS | CASSETTE |
| CHAS | CHASSIS |
| CHAS, FR | CHASSIS, FRONT |
| CHAS, MECHA | CHASSIS, MECHANISM |
| CLR | COLLAR |
| CONT | CONTROL |
| CRSR | CURSOR |
| CUSH | CUSHION |
| DIR | DIRECTION |
| DUBB | DUBBING |
| FLY-WHL | FLYWHEEL |
| FR | FRONT |
| FUN | FUNCTION |
| G-CU | G-CUSHION |
| HDL | HANDOL |
| HIMERON | CLOTH |
| HINGE, BAT | HINGE, BATTERY |
| HLDR | HOLDER |
| HT-SINK | HEAT SINK |
| IB | INSTRUCTION BOOKLET |
| IDLE | IDLER |
| IND, L-R | INDICATOR, L-R |
| KEY, CONT | KEY, CONTROL |
| KEY, PRGM | KEY, PROGRAM |
| KNOB, SL | KNOB, SLIDE |
| KNOB, VOL REV | KNOB, VOLUME REV |
| LBL | LABEL |
| LID, BATT | LID, BATTERY |
| LID, CASS | LID, CASSETTE |
| LVR | LEVER |
| P-SP | P-SPRING |
| PANEL, CONT | PANEL, CONTORL |
| PANEL, FR | PANEL, FRONT |
| PRGM | PROGRAM |
| PULLY, LOAD MO | PULLY, LOADING MOTOR |
| RBN | RIBBON |
| S- | SPECIAL |
| SEG | SEGMENT |
| SH | SHEET |
| SHLD-SH | SHIELD-SHEET |
| SL | SLIDE |
| SP | SPRING |
| SP, SCREW BAT | SPECIAL SCREW BATTERY |
| SP-SCREW | SPECIAL-SCREW |
| SPACER, BAT | SPACER, BATTERY |
| SPR | SPRING |
| SPR-P | P-SPRING |
| SPR-PC-PUSH | P-SPRING, C-PUSH |
| SW | SWITCH |
| T-SP | T-SPRING |
| TERM | TERMINAL |
| TRIG | TRIGGER |
| TUN | TUNING |
| VOL | VOLUME |
| W | WASHER |
| WHL | WHEEL |
| WORM-WHL | WORM-WHEEL |
| ｼｬﾌｱｰﾑ | ARM, SHAFT |
| ｼｬﾌｶﾞｲﾄﾞ | GUIDE, SHAFT |
| ｽﾄﾗｯﾌﾟ | STRAP |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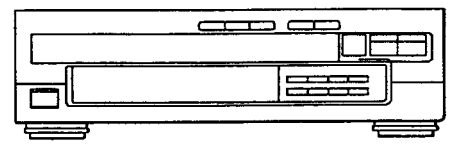
aiwa

# DX-Z950M

# SERVICE MANUAL



COMPACT DISC PLAYER

• BASIC CD MECHANISM : KSM – 2101ABM • TYPE. Y

◆DX – Z950M are Compact Disc Player connected to below systems.

- XS – Z1000M
- CX – Z1000M
- XS – Z900M
- CX – Z900M
- XS – Z860M
- XS – Z750M
- CX – Z750M

## SPECIFICATIONS

| | |
|---|---|
| **Disc** | Compact disc |
| **Scanning method** | Non-contact optical scanner (semiconductor laser application) |
| **Laser** | Semiconductor laser ($\lambda$ = 750-800 nm) |
| **Rotation speed** | Approx. 500 rpm – 200 rpm (CLV) |
| **Error correction** | Cross Interleave, Reed Solomon code |
| **No. of channels** | 2 channels |
| **D-A conversion** | 1-bit DAC |
| **Wow/Flutter** | Unmeasurable |
| **Signal to noise ratio** | 92 dB (1 kHz, 0 dB) |
| **Harmonic distortion** | 0.01% (1 kHz, 0 dB) |
| **Low pass filter** | 8 times digital filter + active filter |
| **Power consumption** | 15 W |
| **Dimensions (W×H×D)** | 360 × 98.5 × 308 mm (14 1/4 × 4 × 12 1/4 in) |
| **Weight** | 3.8 kg (8.4 lb) |

• Design and specifications are subject to change without notice.

AIWA CO.,LTD.

Tokyo Japan

Printed in Japan

# CAUTIONS WHEN SERVICING

Model DX-Z950M do not have a power circuit. These equipment use a 11-pin flat cable to receive the power supply and to output and input signals.

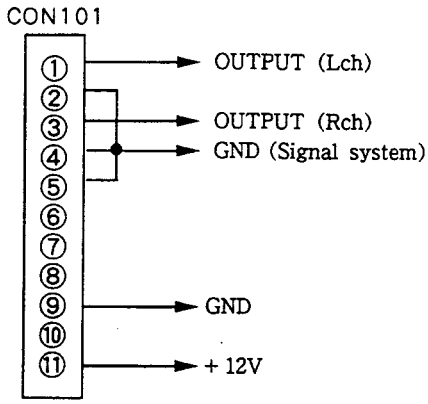
When servicing these equipment, connect them to the devices as shown in Table 1. If the equipment in Table 1 is not available, follow the procedure below.

Table 1

| |
|---|
| • XS – Z1000M |
| • CX – Z1000M |
| • XS – Z900M |
| • CX – Z900M |
| • XS – Z860M |
| • XS – Z750M |
| • CX – Z750M |

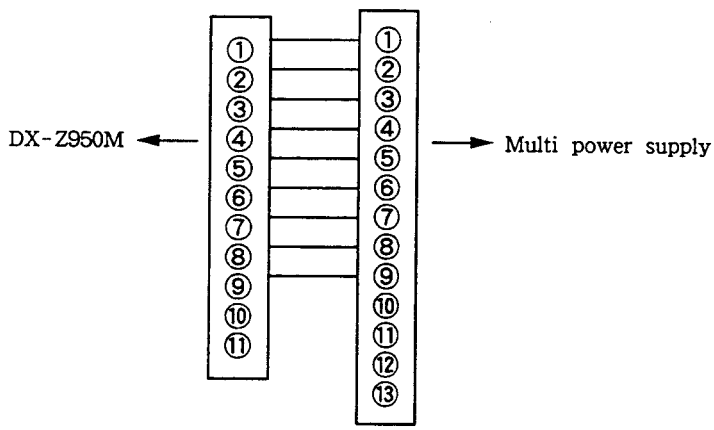
[Repairing a single machine]

① Supply the following voltage to each terminal from the exterminal power supply.

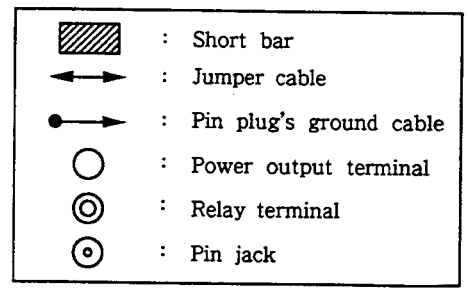


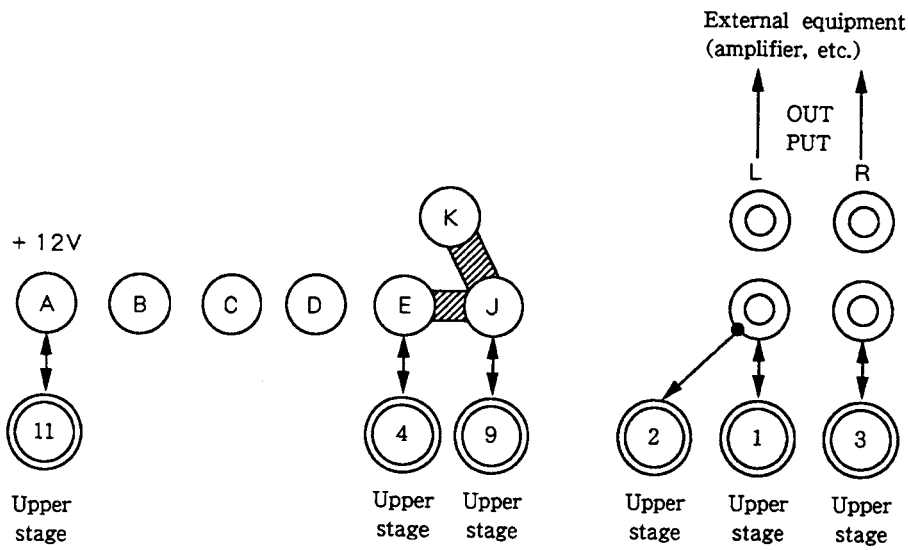

② Multi Power Connection diagram (LPS-9088)

Connect the multi-conversion harness for F550 to the J1 connector.




Connect diagram of multi – conversion harness.



## DISSASEMBLY INSTRUCTIONS

1. "Cabinet, Steel" Removal (See Figure-1)
   1) Remove 5 screws (Ⓐ) and remove "Cabinet, Steel".

2. "Cabinet, Front" Removal (See Figure-1)
   1) Remove 5 screws (Ⓑ× 4, Ⓒ× 1) and remove the "Cabinet, Front".

3. "Panel, Rear" Removal (See Figure-1)
   1) Remove 4 screws (Ⓓ) and remove the "Panel, Rear".

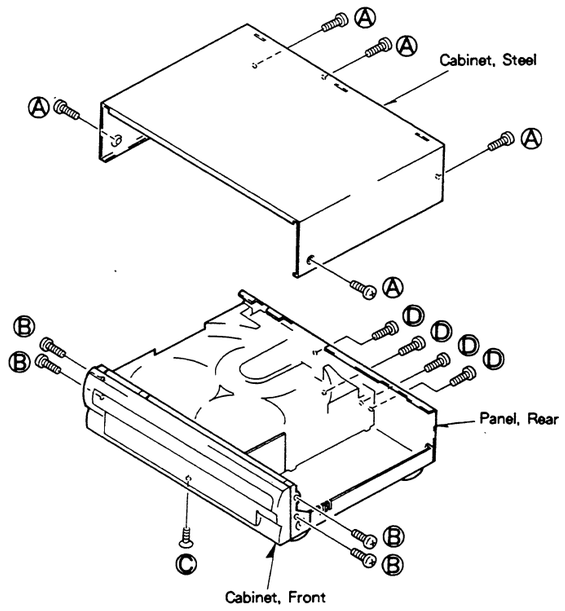



Fig – 1

4. "Mechanism ASSY" Removal (See Figure-2)
   1) Remove 4 screws (Ⓐ) and remove the "Mechanism ASSY".

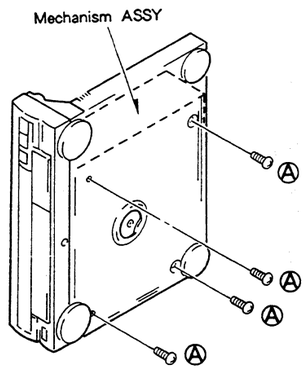



Fig – 2

5. "Main Circuit Board" Removal (See Figure – 3)
   1) Remove 6 hooks unsolder the soldered points and raise the "Main Circuit Board".
   2) Remove 8 connectors and remove the "Main Circuit Board" in the direction of the arrow.

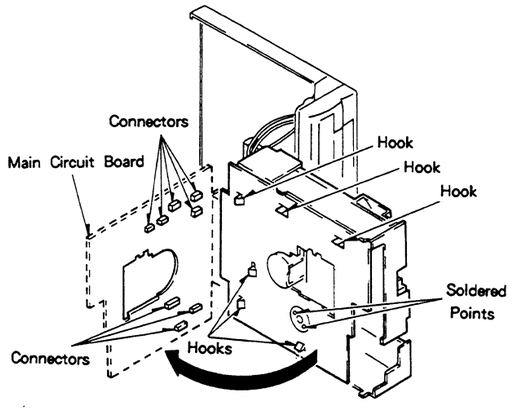



Fig – 3

6. "Tray" Removal (See Figure – 4)
   1) Open the "Tray".
   ★ To open manually
   Turn gear in the direction of arrow ① with your fingers.
   ★ To open automatically
   Connect the power supply to the loading motor and open the "Tray".
   2) While pushing the hook in the direction of the arrow ② as shown in the figure, remove the "Tray" in the direction of arrow ③.
   3) Remove screw (Ⓐ) and remove the "Turntable".

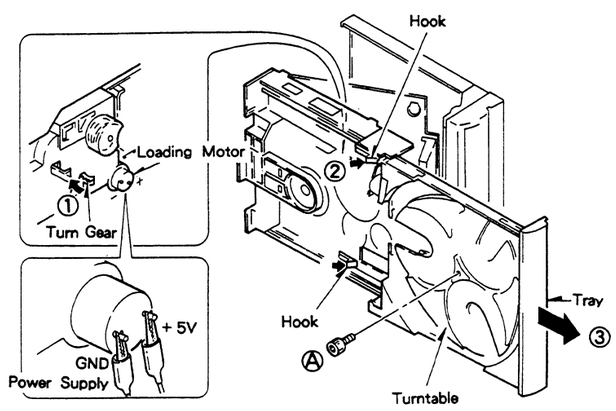


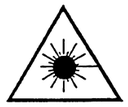

Fig – 4



## PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

**WARNING!!**
WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion.
  Undgå udsættelse for stråling.

**VAROITUS!**
Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

**VARNING!**
Om apparaten används på annat sätt än vad som specificeras i denna bruksanvisning, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.

**CAUTION**
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

**ATTENTION**
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

CLASS 1
LASER PRODUCT

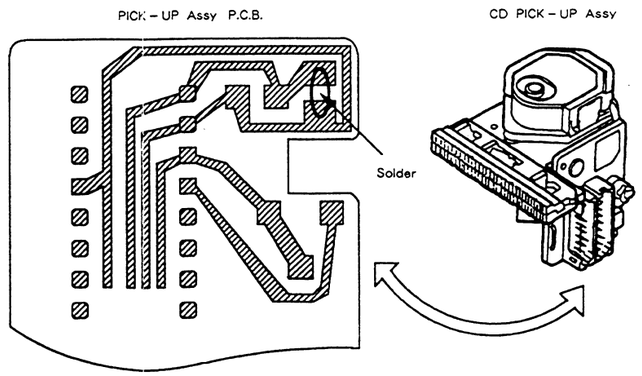
LUOKAN 1
LASERLAITE

KLASS 1
LASER APPARAT

## Precaution to replace Optical block (KSS – 210A)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in the right figure.



# ELECTRICAL MAIN PARTS LIST

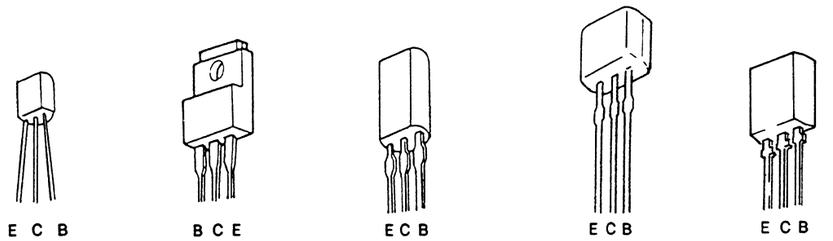
| REF. NO. | PART NO. | DESCRIPTION |
|---|---|---|
| | ===IC=== | |
| | 87-002-639-010 | IC, BA6296FP |
| | 87-001-184-010 | IC, CXA1081S |
| | 87-001-400-010 | IC, CXA1082S |
| | 87-001-944-010 | IC, CXD1167Q |
| | 81-VM1-636-010 | IC, CXP50116-392Q |
| | 87-002-211-010 | IC, GP1F32T(DIGITAL OUT) |
| | 87-002-394-010 | IC, LB1641 |
| | 87-002-348-010 | IC, NJM4580D |
| | 87-020-881-019 | IC, NJM78L05A |
| | 87-002-984-010 | IC, TC9237BN |
| | ===TRANSISTOR=== | |
| | 89-112-964-019 | TRANSISTOR, 2SA1296Y |
| | 89-113-187-019 | TRANSISTOR, 2SA1318TU |
| | 89-213-302-019 | TRANSISTOR, 2BS1330Q |
| | 89-213-702-019 | TRANSISTOR, 2SB1370E |
| | 89-318-155-019 | TRANSISTOR, 2SC1815GR |
| | 89-318-154-019 | TRANSISTOR, 2SC1815Y |
| | 89-325-002-319 | TRANSISTOR, 2SC2500 |
| | 89-406-555-019 | TRANSISTOR, 2SD655E |
| | 87-026-572-019 | TRANSISTOR, DTA114TS |
| | 87-026-486-019 | TRANSISTOR, DTA144TS |
| | 87-026-291-019 | TRANSISTOR, DTC124XS |
| | 87-026-218-019 | TRANSISTOR, DTC144ES |
| | ===DIODE=== | |
| | 87-020-870-019 | DIODE, 1S1585 |
| | 87-020-465-019 | DIODE, 1SS133 |
| | 87-002-608-019 | DIODE, DSF10TC |
| | 87-002-850-019 | DIODE, ZENER HZ4B2 |
| | 87-027-393-019 | DIODE, ZENER HZ4C2 |
| | 87-027-652-019 | DIODE, ZENER HZ9A1L |
| | 87-027-402-019 | DIODE, ZENER HZ24-2L |
| | ===MAIN CIRCUIT BOARD SECTION=== | |
| C101 | ★87-010-405-019 | CAP, ELECT 10-50 SME |
| C102 | ★87-010-405-019 | CAP, ELECT 10-50 SME |
| C103 | ★87-018-127-019 | CAP, CERA-SOL SS 470P-50 B |
| C104 | ★87-018-127-019 | CAP, CERA-SOL SS 470P-50 B |
| C107 | ★87-018-113-019 | CAP, CERA-SOL SS 33P-50 SL |
| C108 | ★87-018-113-019 | CAP, CERA-SOL SS 33P-50 SL |
| C109 | ★87-018-117-019 | CAP, CERA-SOL SS 68P-50 SL |
| C110 | ★87-018-117-019 | CAP, CERA-SOL SS 68P-50 SL |
| C111 | ★87-018-113-019 | CAP, CERA-SOL SS 33P-50 SL |
| C112 | ★87-018-113-019 | CAP, CERA-SOL SS 33P-50 SL |
| C113 | ★87-010-404-019 | CAP, ELECT 4.7-50 SME |
| C114 | ★87-018-134-019 | CAP, CERA-SOL SS 0.01-16 Y |
| C115 | ★87-018-134-019 | CAP, CERA-SOL SS 0.01-16 Y |
| C116 | ★87-010-260-019 | CAP, ELECT 47-25 SME |
| C117 | ★87-010-263-019 | CAP, ELECT 100-10 |
| C118 | ★87-010-263-019 | CAP, ELECT 100-10 |
| C119 | ★87-018-113-019 | CAP, CERA-SOL SS 33P-50 SL |
| C120 | ★87-018-113-019 | CAP, CERA-SOL SS 33P-50 SL |
| C121 | ★87-018-134-019 | CAP, CERA-SOL SS 0.01-16 Y |
| C122 | ★87-010-263-019 | CAP, ELECT 100-10 |
| C130 | ★87-018-209-019 | CAP, CERA-SOL SS 0.1-50 F |
| C201 | ★87-018-132-019 | CAP, CERA-SOL SS 2200P-16 X |
| C202 | ★87-018-134-019 | CAP, CERA-SOL SS 0.01-16 Y |
| C203 | ★87-018-202-019 | CAP, CERA-SOL SS 6800P-16 X |
| C207 | ★87-010-405-019 | CAP, ELECT 10-50 SME |
| C211 | ★87-018-199-019 | CAP, CERA-SOL SS 3300P-16 X |
| C212 | ★87-010-403-019 | CAP, ELECT 3.3-50 SME |
| C213 | ★87-010-382-019 | CAP, ELECT 22-25 SME |
| C216 | ★87-010-374-019 | CAP, ELECT 47-10 |
| C220 | ★87-018-133-019 | CAP, CERA-SOL SS 4700P-16 X |
| C221 | ★87-010-401-019 | CAP, ELECT 1-50 SME |
| C222 | ★87-010-401-019 | CAP, ELECT 1-50 SME |

| REF. NO. | PART NO. | DESCRIPTION |
|---|---|---|
| C230 | ★87-018-134-019 | CAP, CERA-SOL SS 0.01-16 Y |
| C231 | ★87-018-134-019 | CAP, CERA-SOL SS 0.01-16 Y |
| C302 | ★87-018-134-019 | CAP, CERA-SOL SS 0.01-16 Y |
| C303 | ★87-010-400-019 | CAP, ELECT 0.47-50 SME |
| C305 | ★87-018-132-019 | CAP, CERA-SOL SS 2200P-16 X |
| C307 | ★87-010-248-019 | CAP, ELECT 220-10 |
| C308 | ★87-010-374-019 | CAP, ELECT 47-10 |
| C309 | ★87-018-134-019 | CAP, CERA-SOL SS 0.01-16 Y |
| C310 | ★87-010-374-019 | CAP, ELECT 47-10 |
| C401 | ★87-010-263-019 | CAP, ELECT 100-10 |
| C402 | ★87-018-134-019 | CAP, CERA-SOL SS 0.01-16 Y |
| C404 | ★87-010-400-019 | CAP, ELECT 0.47-50 SME |
| C405 | ★87-018-134-019 | CAP, CERA-SOL SS 0.01-16 Y |
| C406 | ★87-018-131-019 | CAP, CERA-SOL SS 1000P-50 B |
| C501 | ★87-016-113-019 | CAP, ELECT 4700-16 VR |
| C503 | ★87-018-209-019 | CAP, CERA-SOL SS 0.1-50 F |
| C504 | ★87-018-134-019 | CAP, CERA-SOL SS 0.01-16 Y |
| C505 | ★87-010-404-019 | CAP, ELECT 4.7-50 SME |
| C506 | ★87-010-374-019 | CAP, ELECT 47-10 |
| C512 | ★87-018-134-019 | CAP, CERA-SOL SS 0.01-16 Y |
| C513 | ★87-018-134-019 | CAP, CERA-SOL SS 0.01-16 Y |
| C516 | ★87-010-260-019 | CAP, ELECT 47-25 SME |
| C522 | ★87-010-406-019 | CAP, ELECT 22-50 SME |
| C526 | ★87-018-134-019 | CAP, CERA-SOL SS 0.01-16 Y |
| C527 | ★87-018-200-019 | CAP, CERA-SOL SS 3900P-16 X |
| C528 | ★87-010-263-019 | CAP, ELECT 100-10 |
| C529 | ★87-018-134-019 | CAP, CERA-SOL SS 0.01-16 Y |
| C531 | ★87-010-221-019 | CAP, ELECT 470-10 |
| C533 | ★87-018-134-019 | CAP, CERA-SOL SS 0.01-16 Y |
| C552 | ★87-018-209-019 | CAP, CERA-SOL SS 0.1-50 F |
| C556 | ★87-016-113-010 | CAP, ELECT 4700-16 VR |
| C557 | ★87-010-381-019 | CAP, ELECT 330-16 SME |
| C559 | ★87-018-196-019 | CAP, CERA-SOL SS 1500P-11 |
| C801 | ★87-010-263-019 | CAP, ELECT 100-10 |
| C802 | ★87-010-370-019 | CAP, ELECT 330-6.3 SME |
| C803 | ★87-018-115-019 | CAP, CERA-SOL SS 47P-50 SL |
| C804 | ★87-018-115-019 | CAP, CERA-SOL SS 47P-50 SL |
| C805 | ★87-018-115-019 | CAP, CERA-SOL SS 47P-50 SL |
| C806 | ★87-018-115-019 | CAP, CERA-SOL SS 47P SL |
| C807 | ★87-018-128-019 | CAP, CERA-SOL SS 560P-50 B |
| C808 | ★87-018-134-019 | CAP, CERA-SOL SS 0.01-16 Y |
| C809 | ★87-018-128-019 | CAP, CERA-SOL SS 560P-50 B |
| C825 | ★87-010-404-019 | CAP, ELECT 4.7-50 SME |
| C990 | ★87-018-131-019 | CAP, CERA-SOL SS 1000P-50 B |
| C991 | ★87-018-131-019 | CAP, CERA-SOL SS 1000P-50 B |
| EMI102 | ★87-008-372-010 | FILTER, EMI BL OIRNI |
| EMI103 | ★87-008-372-010 | FILTER, EMI BL OIRNI |
| EMI104 | ★87-008-372-010 | FILTER, EMI BL OIRNI |
| F101 | ★87-008-394-019 | FILTER, CERAMIC CST 4.19MGW |
| FC101 | ★82-VM1-616-010 | FLAT CABLE 5-2.0-175 |
| FL101 | ★81-VM1-637-010 | FL, 7BT-171GK(DISPLAY) |
| J104 | 87-002-211-010 | IC, GP1F32T(DIGITAL OUT) |
| L301 | ★87-003-147-019 | COIL, 22UH |
| L401 | ★87-003-147-019 | COIL, 22UH |
| L502 | ★87-007-311-010 | COIL, OSC DDCON V |
| L801 | ★87-003-147-019 | COIL, 22UH |
| M102 | 87-045-305-010 | MOTOR, RF-500TB(LOADING MOTOR) |
| R410 | ★87-025-407-019 | RES, MF 100K-1/8W |
| R412 | ★87-025-407-019 | RES, MF 100K-1/8W |
| ⚠R507 | ★87-029-129-090 | RES, FUSE 3.3-1/4W |
| ⚠R522 | ★87-029-129-090 | RES, FUSE 3.3-1/4W |
| SFR101 | ★87-024-169-010 | SFR, 2.2K DIA6V |
| SFR103 | ★87-024-173-010 | SFR, 22K DIA6V |
| SFR301 | ★87-024-173-010 | SFR, 22K DIA6V |
| SFR302 | ★87-024-173-010 | SFR, 22K DIA6V |
| X102 | ★87-030-270-019 | XTAL RESONATOR 16.9344MHZ |



| REF. NO. | PART NO. | DESCRIPTION |
|---|---|---|
| | ===TACT-1 CIRCUIT BOARD SECTION=== | |
| FC701 | ★82-VM1-615-010 | FLAT CABLE, 3-2.0-160 |
| LED701 | 89-VW5-606-010 | LED, SLH-38MC 70F-90(◀PLAY/PAUSE) |
| LED702 | 87-002-816-010 | LED, SEL 2415E GRN(⏭) |
| LED703 | 89-VW5-606-010 | LED, SLH-38MC 70F-90(■STOP/CLEAR) |
| LED704 | 87-002-816-010 | LED, SEL 2415E GNN(⏮) |
| SW701 | 87-036-259-018 | SW, TACT SKHI/BB(■STOP/CLEAR)) |
| SW702 | 87-036-259-018 | SW, TACT SKHI/BB(◀PLAY/PAUSE) |
| SW703 | 87-036-270-019 | SW, TACT 2SKQCAA(⏭) |
| SW704 | 87-036-270-019 | SW, TACT 2SKQCAA(⏮) |
| SW706 | 87-036-259-018 | SW, TACT 2KHVBB(RANDOM) |
| SW707 | 87-036-259-018 | SW, TACT 2KHVBB(PROGRAM) |
| SW708 | 87-036-259-018 | SW, TACT 2KHVBB(REPEAT) |
| SW709 | 87-036-259-018 | SW, TACT 2KHVBB(TIMER PROGRAM) |
| SW710 | 87-036-259-018 | SW, TACT 2KHVBB(DELITE) |
| SW711 | 87-036-259-018 | SW, TACT 2KHVBB(DISPLAY) |
| SW712 | 87-036-259-018 | SW, TACT 2KHVBB(EDIT-AI) |
| SW713 | 87-036-259-018 | SW, TACT 2KHVBB(EDIT-CONT) |
| SW714 | 87-036-259-018 | SW, TACT 2KHVBB(1) |
| SW715 | 87-036-259-018 | SW, TACT 2KHVBB(⏏OPEN/CLOSE) |
| SW716 | 87-036-259-018 | SW, TACT 2KHVBB(DISK CHANGE) |
| SW717 | 87-036-259-018 | SW, TACT 2KHVBB(DISK CONT, SKIP) |
| SW718 | 87-036-259-018 | SW, TACT 2KHVBB(3) |
| SW719 | 87-036-259-018 | SW, TACT 2KHVBB(2) |
| | ===TACT-2 CIRCUIT BOARD SECTION=== | |
| SW705 | 87-036-259-018 | SW, TACT 2KHVBB(POWER) |
| | ===PHOTO CIRCUIT BOARD SECTION=== | |
| PH601 | 87-026-573-010 | P-SENSOR, GP1S53V |
| | ===MOTOR-1 CIRCUIT BOARD SECTION=== | |
| M101 | 87-045-305-010 | MOTOR, RF-500TB(TURN TABLE MOTOR) |
| | ===MOTOR-2 CIRCUIT BOARD SECTION=== | |
| M103 | 9X-262-513-210 | MOTOR GEAR ASSY(SLED) |
| M104 | 9X-262-513-310 | MOTOR ASSY(W/CHASSIS, T.T)(SPINDLE) |
| SW101 | 91-572-085-110 | LEAF SW(INSIDE LIMIT) |
| | ===SWITCH-1 CIRCUIT BOARD SECTION=== | |
| SW603 | 87-036-109-010 | PUSH, SW(CLOSE SW) |
| | ===SWITCH-2 CIRCUIT BOARD SECTION=== | |
| SW601 | 87-036-271-010 | LEVER, SW(UP/DOWN SW) |
| | ===SWITCH-3 CIRCUIT BOARD SECTION=== | |
| SW602 | 87-036-271-010 | LEVER, SW(OPEN SW) |
| | ===MISCELLANEOUS=== | |
| | 98-848-127-110 | OPTICAL PICK UP KSS-210A |
| | ★89-VT5-202-010 | BUSHING, CORD |
| CON101 | ★89-VX5-618-010 | FLAT CABLE 11P FG |

## TRANSISTOR ILLUSTRATION



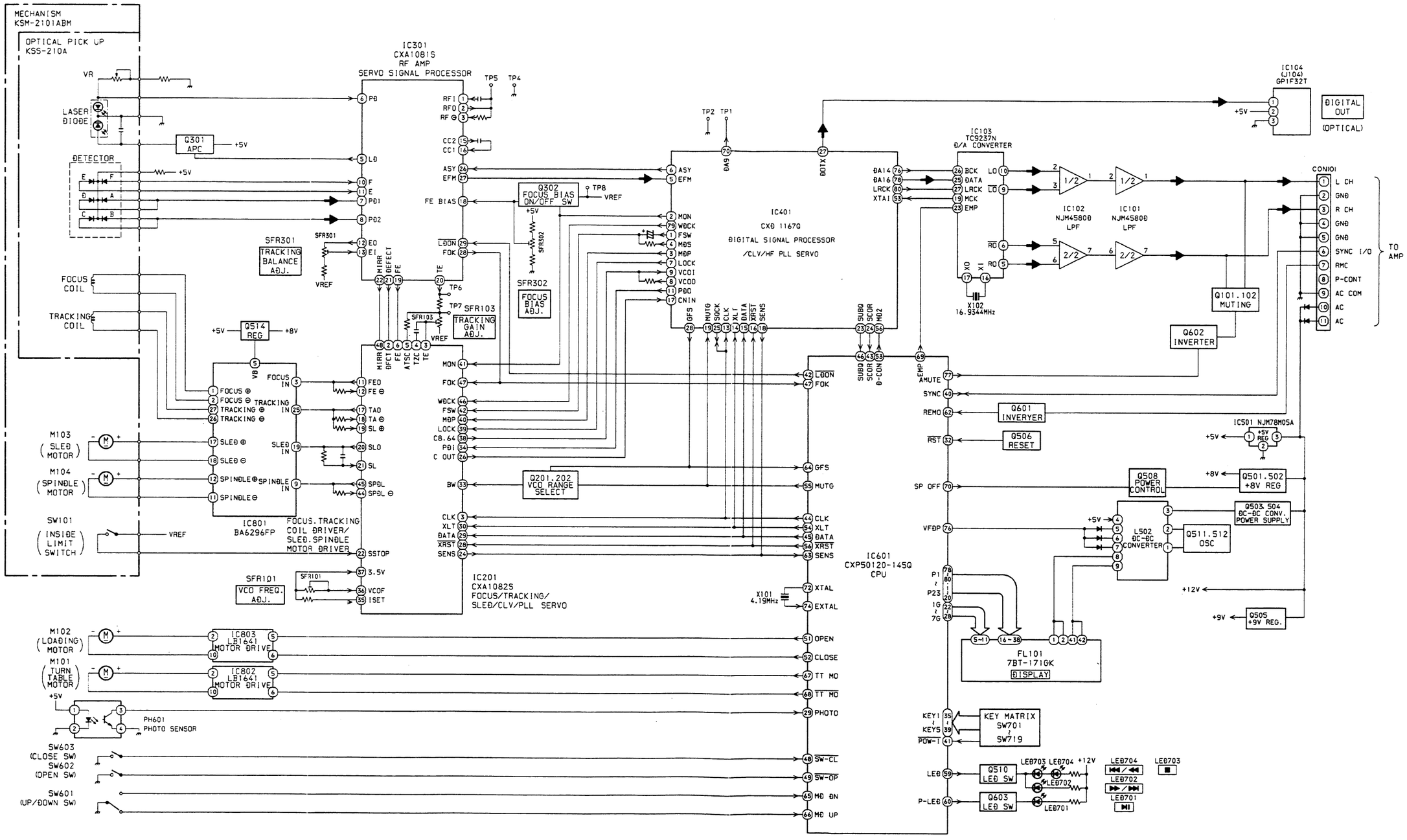
| E C B | B C E | E C B | E C B | E C B |
|---|---|---|---|---|
| 2SA1296 | 2SB1370 | 2SC2500 | DTA114 | 2SB1330 |
| 2SA1318 | | | DTA144 | |
| 2SC1815 | | | DTC144 | |
| 2SD655 | | | DTC124 | |

| See the DX – N350M for the IC description below | | |
|---|---|---|
| | DX – N350M | DX – Z950M |
| ① | IC, CXP50120 – 145Q | IC, CXP50120 – 145Q |
| ② | IC, CXD1167Q | IC, CXD1167Q |
| ③ | IC, CXA1081S | IC, CXA1081S |
| ④ | IC, CXA1082S | IC, CXA1082S |
| ⑤ | IC, TC9237N | IC, TC9237N |

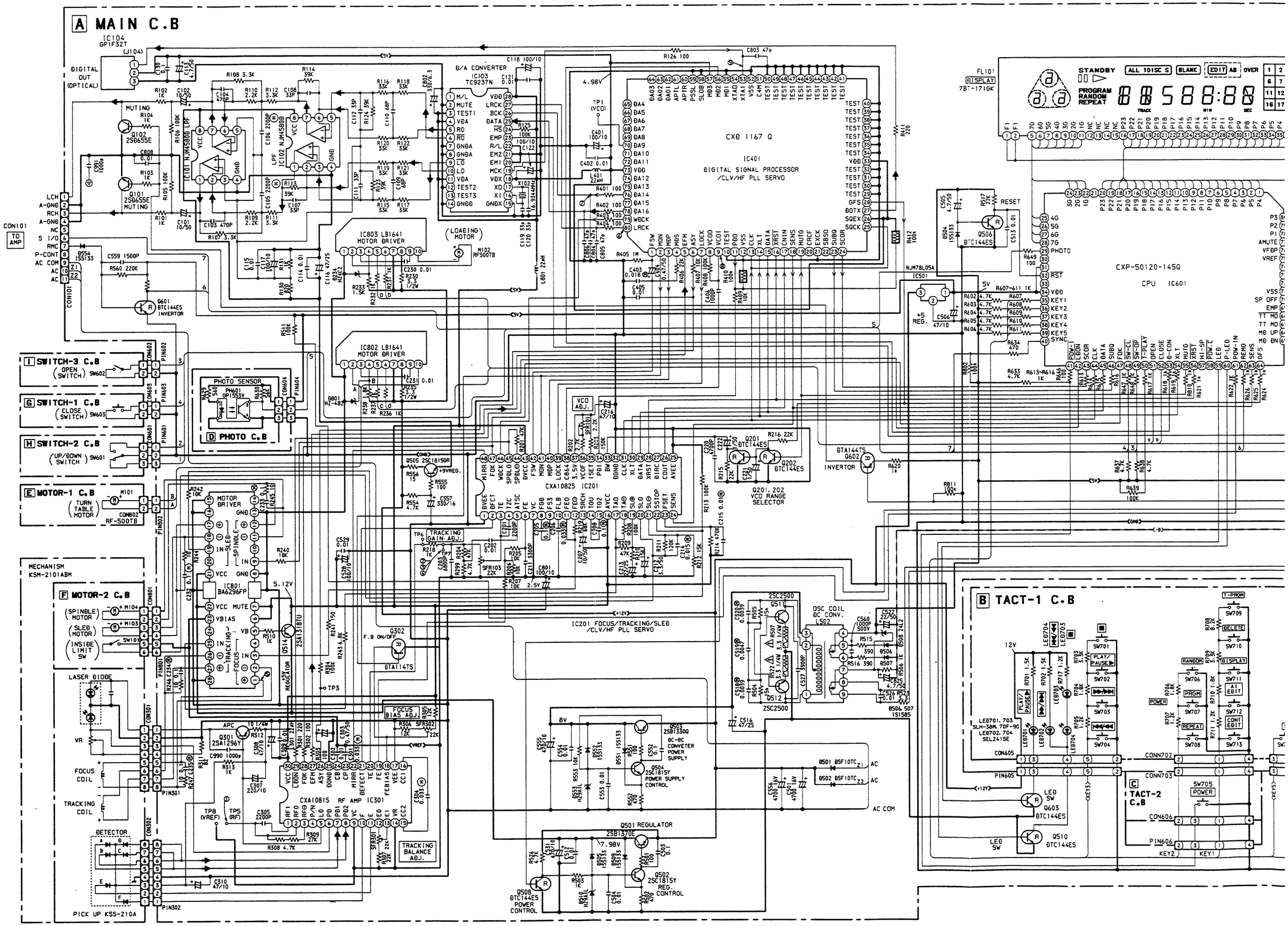
## ■ ACCESSORIES/PACKAGE LIST

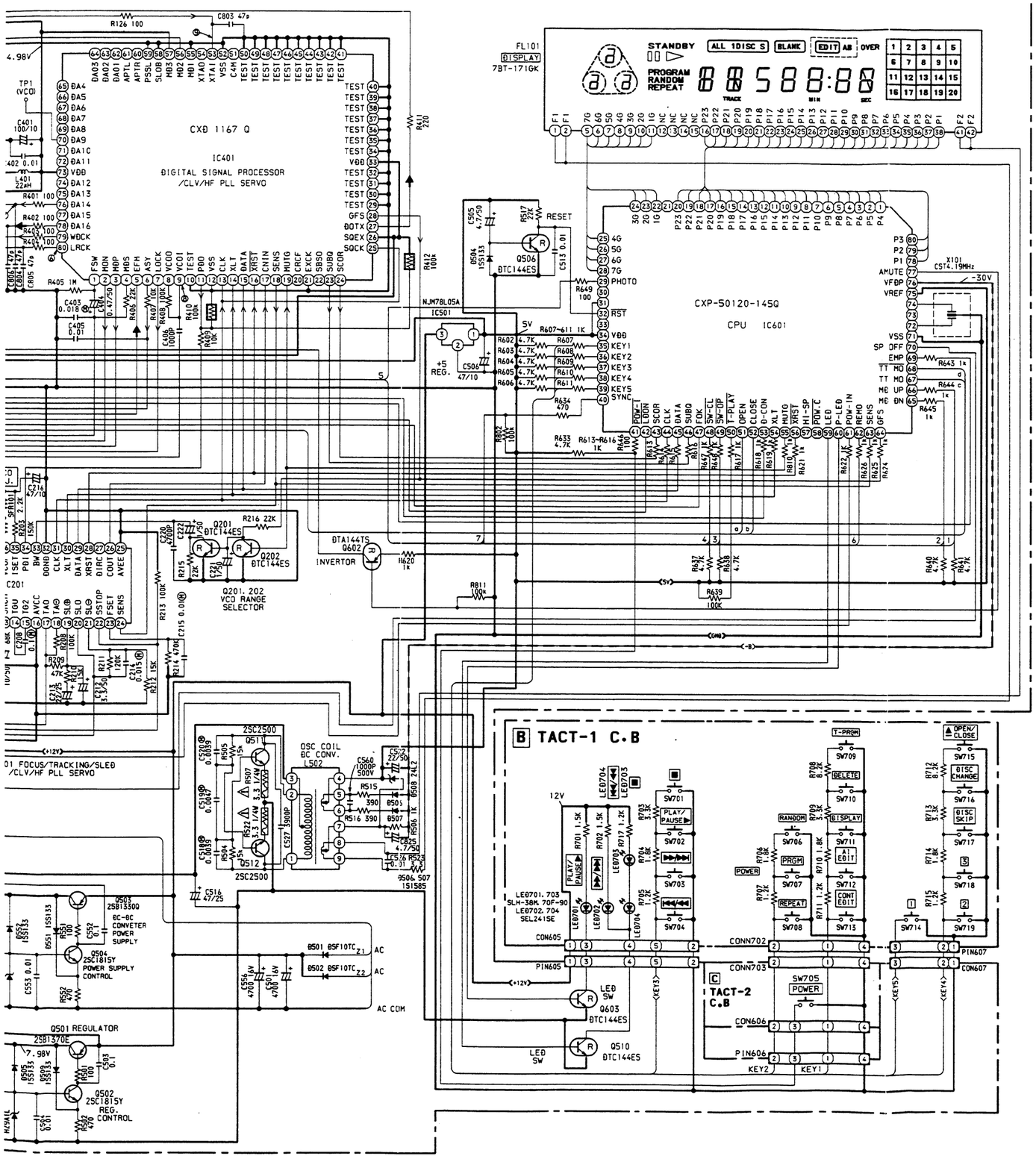
| PART NO. CHANGED TO | REF. NO. | PART NO. | DESCRIPTION | COMMON MODEL | Q,TY |
|---|---|---|---|---|---|
| | 1 | ★82-VM1-902-010 | INSTRUCTION BOOKLET EX | ※ | 1 |
| | 2 | ★87-064-129-010 | HOLDER, F – CABLE 682 | | 1 |

# BLOCK DIAGRAM



SCHEMATIC DIAGRAM

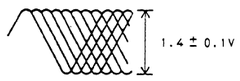







# WAVE FORM

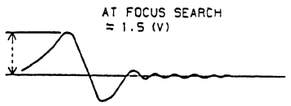
①



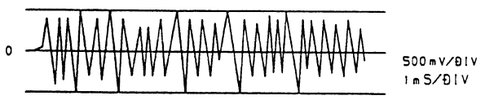

VP-P SHOULD BE APPROX. 1.4X.
WHEN PLAYING TRACK-2 OF YEDS-18.

②

③

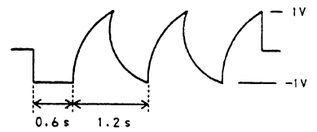



④

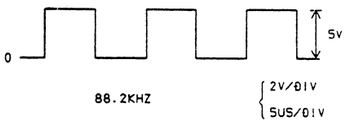



⑤

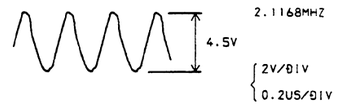
(WHEN VDD ON WITHOUT DISC AND TRAY IS CLOSED.)



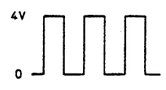

⑥



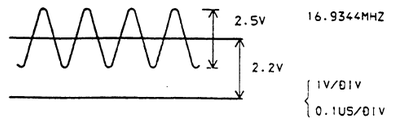

⑦

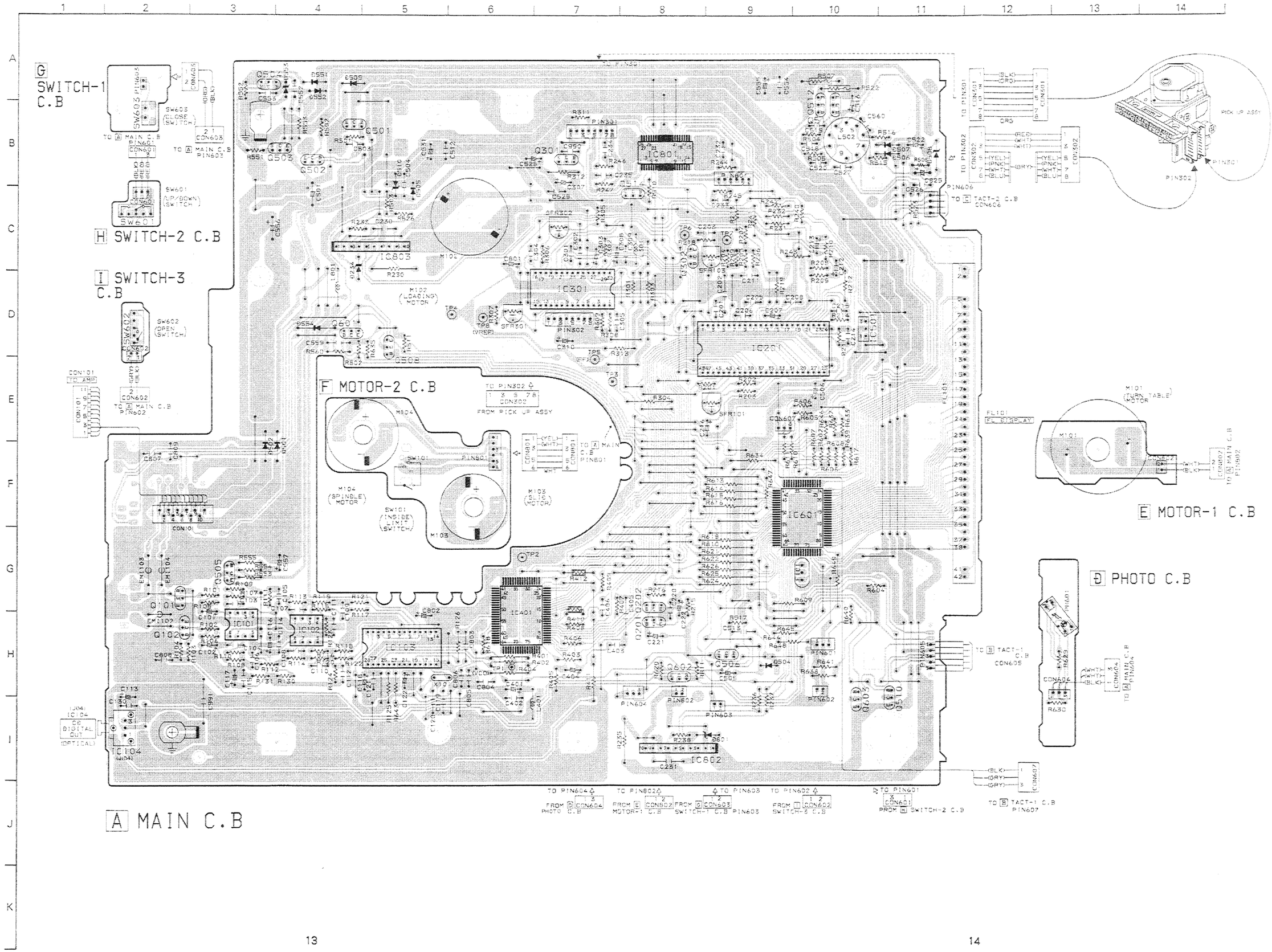



⑧



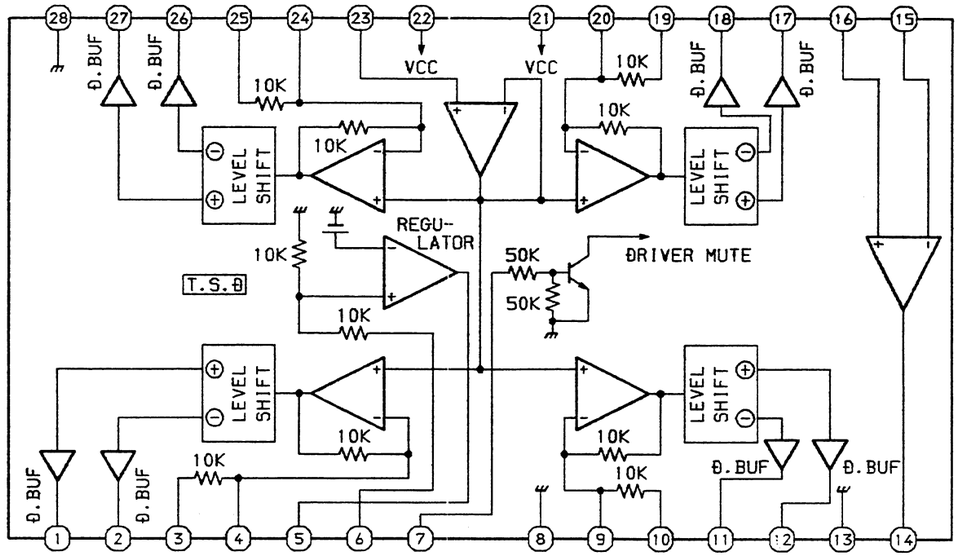

⑨



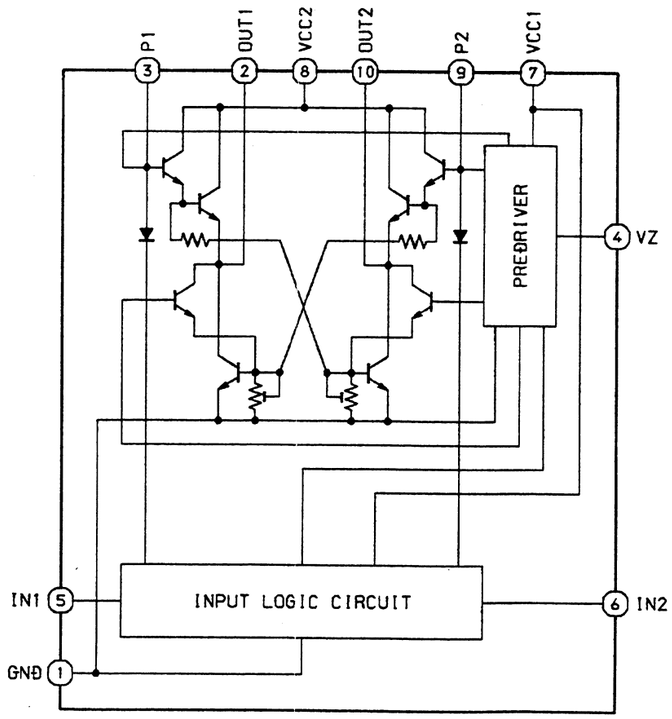

G SWITCH-1 C.B
H SWITCH-2 C.B
I SWITCH-3 C.B
F MOTOR-2 C.B
A MAIN C.B
E MOTOR-1 C.B
D PHOTO C.B
PICK UP ASSY
M101 (TURN TABLE) MOTOR
M102 (LOADING) MOTOR
M104 (SPINDLE) MOTOR
M103 (SLIDE) MOTOR
SW101 (INSIDE) LIMIT (SWITCH)
SW601 (UP/DOWN) (SWITCH)
SW602 (OPEN) (SWITCH)
SW603 (CLOSE) (SWITCH)
IC801
IC301
IC201
IC601
IC602
IC401
IC101
IC102
IC104
IC803
TO PIN302
FROM PICK UP ASSY
TO PIN604
TO PIN603
TO PIN602
TO PIN601
FROM PHOTO C.B
FROM MOTOR-1 C.B
FROM SWITCH-1 C.B PIN603
FROM SWITCH-2 C.B
TO TACT-1 C.B PIN607
TO TACT-2 C.B CON606
TO MAIN C.B PIN601
TO MAIN C.B PIN602
TO MAIN C.B PIN603
TO MAIN C.B PIN604
TO MAIN C.B PIN606
TO MAIN C.B PIN607

## IC BLOCK DIAGRAM

IC,BA6296FP



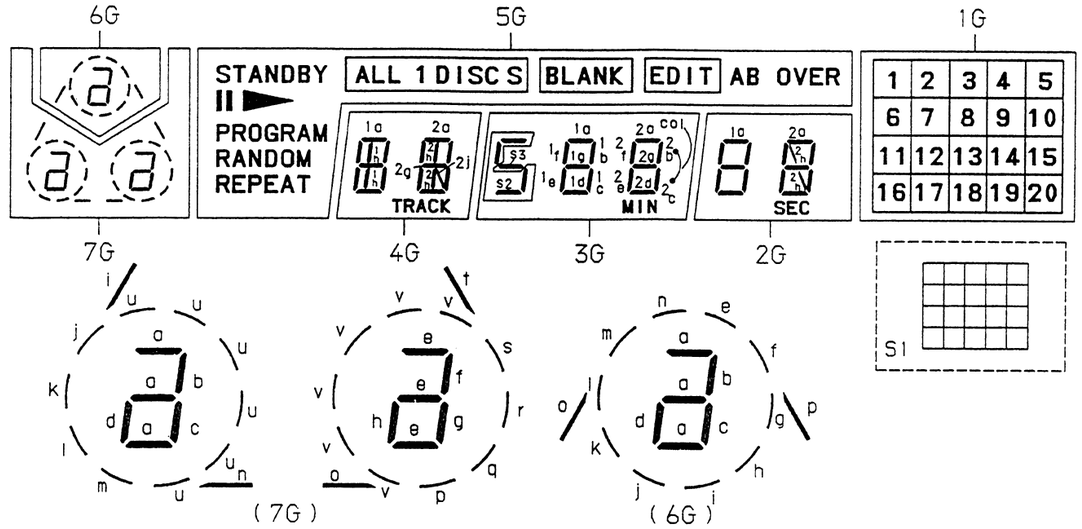

IC,LB1641





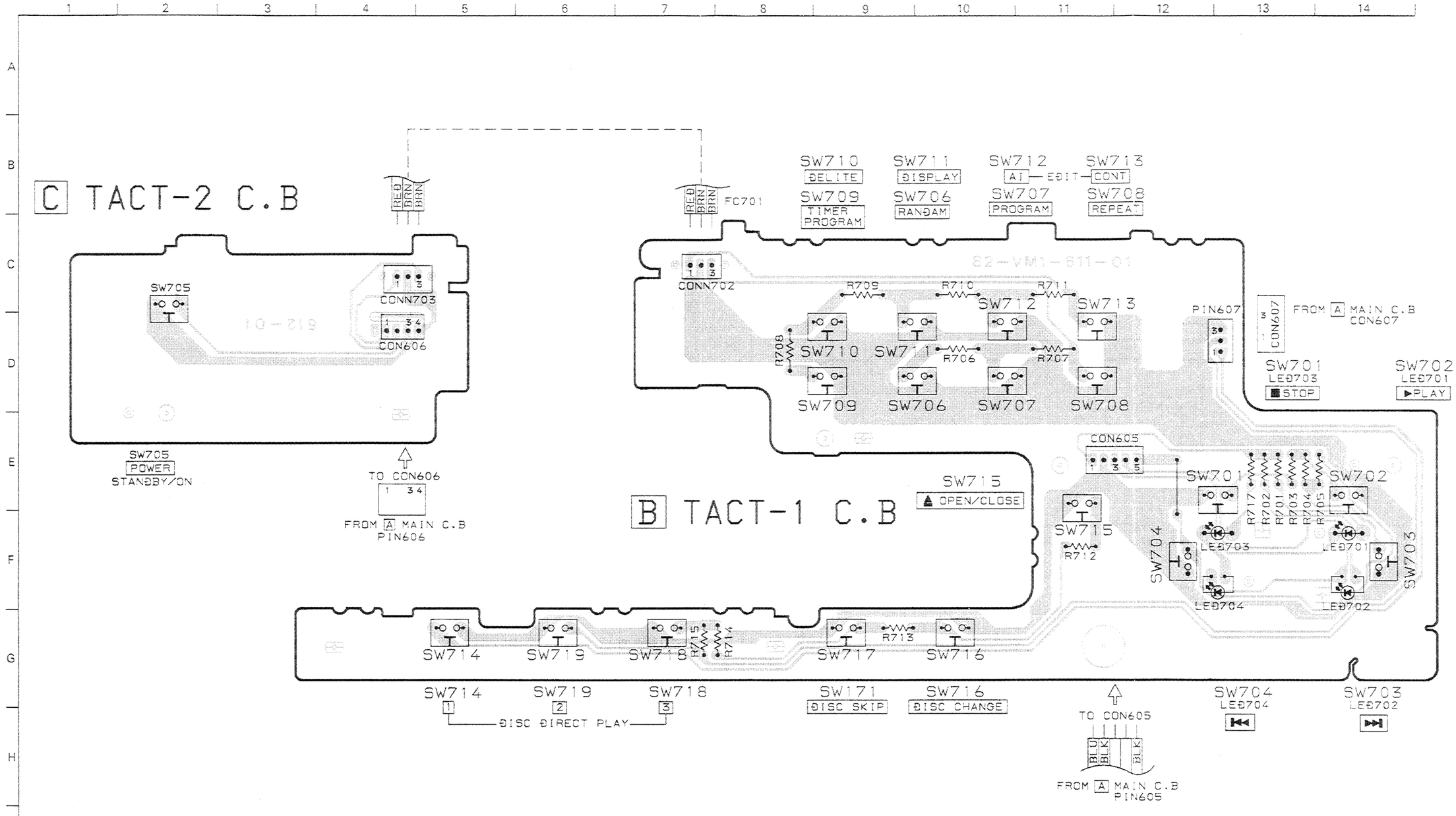

## GRID ASSIGNMENT

FL101 7BT – 171GK



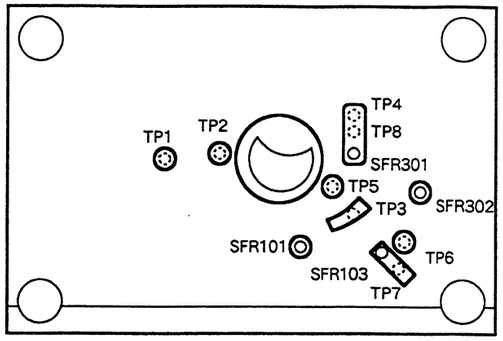

## ANODE CONNECTION

| | 7G | 6G | 5G | 4G | 3G | 2G | 1G |
|---|---|---|---|---|---|---|---|
| P1 | i | o | **OVER** | 1a | 1a | 1a | **1** |
| P2 | j | l | **B** | 1b | 1b | 1b | **2** |
| P3 | d | d | **ALL S** | 1c | 1c | 1c | **6** |
| P4 | b | e | **1** | 1d | 1d | 1d | **8** |
| P5 | a | a | **DISC** | 1e | 1e | 1e | **7** |
| P6 | l | n | **EDIT** | 1f | 1f | 1f | **4** |
| P7 | m | k | **BLANK** | 1g | 1g | 1g | **5** |
| P8 | k | m | **A** | 1h | S2 | — | **3** |
| P9 | c | f | ▶ | 2a | 2a | 2a | **9** |
| P10 | u | b | **II** | 2b | 2b | 2b | **10** |
| P11 | h | p | — | 2c | 2c | 2c | **14** |
| P12 | f | — | — | 2d | 2d | 2d | **17** |
| P13 | t | h | — | 2e | 2e | 2e | **16** |
| P14 | o | j | **RANDOM** | 2f | 2f | 2f | **12** |
| P15 | v | g | **REPEAT** | 2g | 2g | 2g | **13** |
| P16 | n | c | **PROGRAM** | 2h | S3 | 2h | **11** |
| P17 | e | l | — | 2j | •(col) | — | **15** |
| P18 | s | — | — | **TRACK** | **MIN** | **SEC** | **18** |
| P19 | g | — | — | — | — | — | **19** |
| P20 | r | — | — | — | — | — | **20** |
| P21 | q | — | — | — | — | — | S1 |
| P22 | p | — | — | — | — | — | — |
| P23 | — | — | **STANDBY** | — | — | — | — |

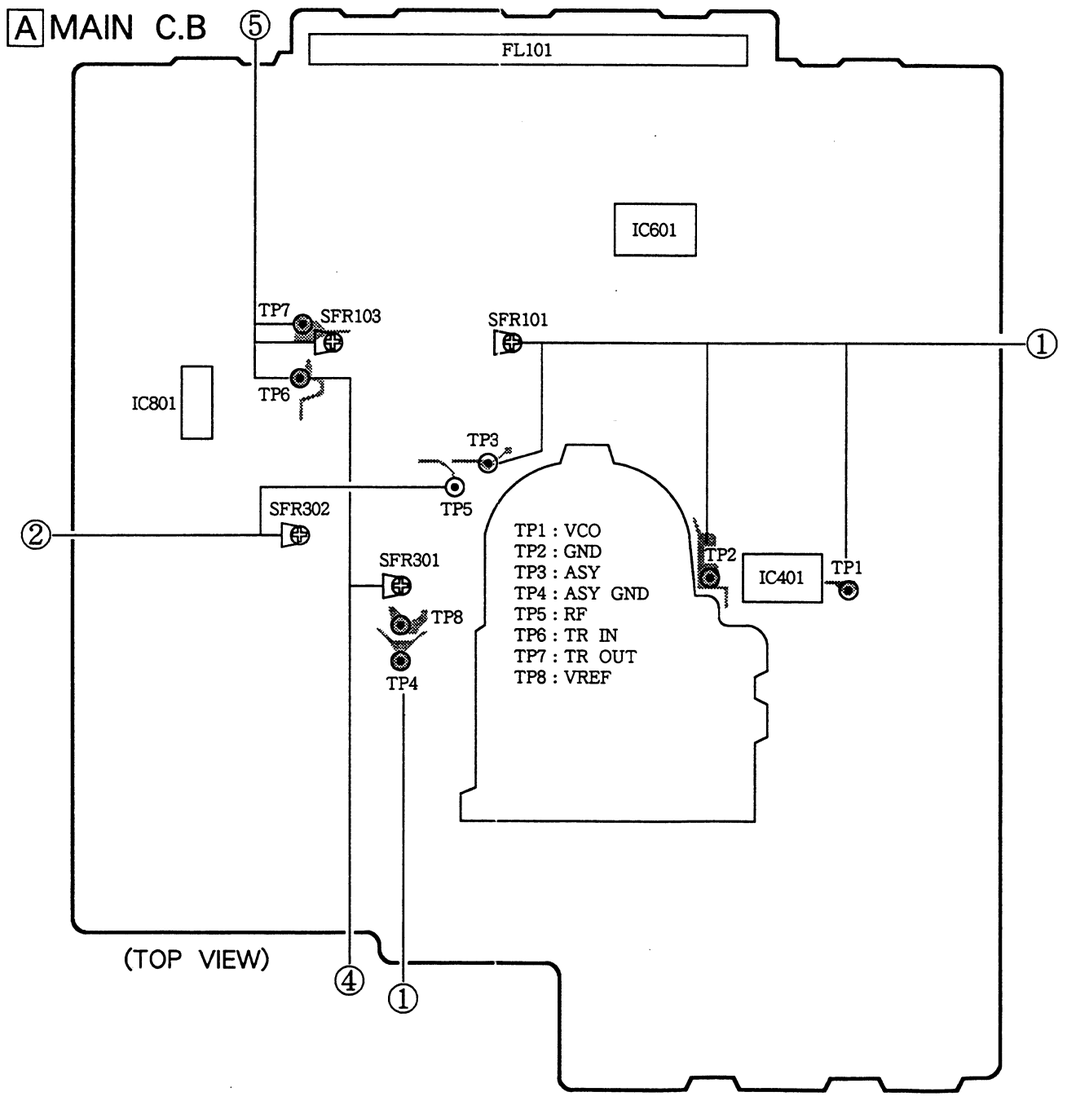

C TACT-2 C.B
RED
BRN
BRN
SW705
CONN703
CON606
SW705
POWER
STANDBY/ON
TO CON606
FROM A MAIN C.B
PIN606
FC701
SW710
DELITE
SW711
DISPLAY
SW712
AI — EDIT — CONT
SW713
SW709
TIMER PROGRAM
SW706
RANDAM
SW707
PROGRAM
SW708
REPEAT
82-VM1-611-01
CONN702
R709
R710
R711
SW712
SW713
PIN607
FROM A MAIN C.B
CON607
R708
SW710
SW711
R706
R707
SW709
SW706
SW707
SW708
SW701
LED703
STOP
SW702
LED701
PLAY
B TACT-1 C.B
SW715
OPEN/CLOSE
CON605
SW715
R712
SW701
SW702
R717
R702
R701
R703
R704
R705
LED703
LED701
SW704
SW703
LED704
LED702
SW714
SW719
SW718
R715
R714
SW717
R713
SW716
SW714
1
SW719
2
SW718
3
DISC DIRECT PLAY
SW171
DISC SKIP
SW716
DISC CHANGE
TO CON605
BLK
BLK
BLK
FROM A MAIN C.B
PIN605
SW704
LED704
SW703
LED702

## ADJUSTMENT

The bottom of DX-Z950M has holes corresponding to the test points of the MAIN C.B.




( BOTTOM VIEW)






Note : • Connect a probe (10 : 1) of the frequency counter or the oscilloscope to a test point.
• Connect the ⊖ probe of the oscilloscope to TP8 (VREF) for each adjustment.

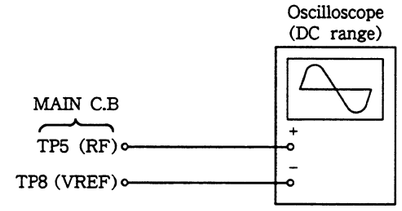
① VCO Frequency Adjustment

1. Connect and short between TP3 (ASY) and TP4 (ASY GND).
2. Connect the frequency counter to test points TP1 (VCO) and TP2 (GND).
3. When the power is off, turn the power on by pressing the OPEN/CLOSE and STOP/CLEAR keys at the same time. (All mode.)
4. Insert the disk and play it.
5. Adjust SFR101 (VCO) so that the frequency counter reading is 4.27 ± 0.02 MHz.
6. After the adjustment is completed, remove the short lead wires from TP3 (ASY) and TP4 (ASY GND).

Note : When releasing all lit up, disconnect the FG connecotor or turn the power off.

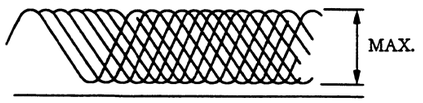
② Focus Bias Adjustment

Make the focus bias adjustment when replacing and repairing the optical block.




1. Connect an oscilloscope to test points TP5 (RF) and TP8 (VREF).
2. Turn on the power switch.
3. Insert test disc TCD-782 (YEDS-18) and play back the second composition.
4. Adjust SFR302 (F.B) so that the amplitude of waveform on the oscilloscope is maximized.

RF signal waveform



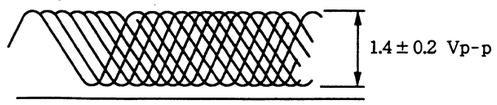

VOLT/DIV : 50 mV
TIME/DIV : 0.5 μS

③ RF Waveform Check

This check should be performed whenever the optical system block is replaced in repair.

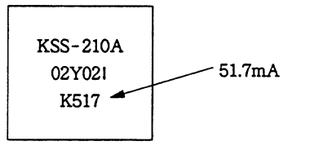
1. Connect an oscilloscope to test points TP5 (RF) and TP8 (VREF).
2. Turn on the power switch.
3. Insert test disc TCD-782 (YEDS-18) and play back the second composition.
4. Check that the waveform appears as shown in the figure below.

RF signal waveform



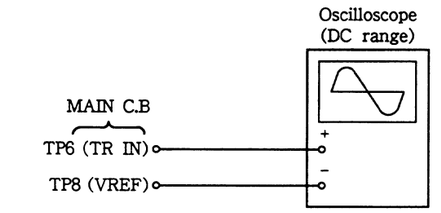

VOLT/DIV : 50 mV
TIME/DIV : 0.5 μS

Note : The current of the laser signal can be checked with the voltages on both sides of R312 (10Ω). The difference for the specified value shown on the label must be within ± 6.0mA.

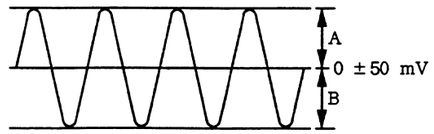



$$\text{Laser current } Iop = \frac{\text{Voltage across R312}}{10\,\Omega}$$

④ Tracking Balance Adjustment




1. Set SFR103 (TG) to minimum.
2. Connect an oscilloscope to test points TP6 (TRIN) and TP8 (VREF).
3. Turn on the power switch.
4. Insert test disc TCD-782 (YEDS-18) and press the PLAY (▶) button.
5. Press the FF key repeatedly.
6. Adjust SFR301 (TB) so that the waveform on the oscilloscope is vertically symmetrical as shown in the figure below.
7. After the adjustment is completed, remove the ground lead wires from the terminals.




A = B

VOLT/DIV : 50 mV
TIME/DIV : 1 mS

⑤ Tracking Gain Adjustment

A servo analyzer is necessary in order to perform this adjustment exactly. However, this gain has a margin, so even if it is slightly off, there is no problem. Therfore, do not perform this adjustment. Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechinical shock when 2-axis device operates. However,as these gains are reciprocated, the adjustment is performed so that both gains are satisfied.

- When gain is raised, the noise increases when the 2-axis device opearates.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.

When the gain adjustment is not satisfied, tye symptoms below appear.

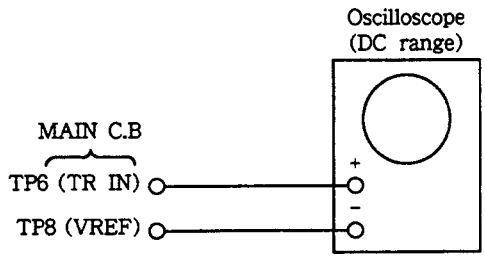
| Gain / Symptoms | (Focus) | Tracking |
|---|---|---|
| ● The time until music starts becomes longer for STOP→▶ PLAY or automatic selection (⏮ ⏭ buttons pressed.) (Normally takes about 2 seconds.) | low | low or high |
| ● Music does not start and disc continues to rotate for STOP →▶ PLAY or automatic selection (⏮ ⏭ buttons pressed.) | – | low |
| ● Disc stops to rotate shortly after STOP→▶ PLAY. | low or high | – |
| ● Sound is interrupted during PLAY. Or time counter display stops. | – | low |
| ● More noises during the 2-axis device operation. | high | high |

The following is simple adjustment method.

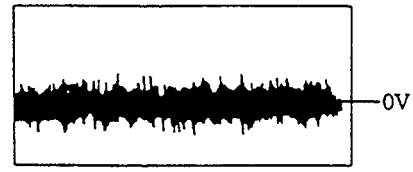
– Simple adjustment –

Note : Since the adjustment cannot be performed exactly, remember the positions of the controls before the adjustment and compare the adjusted position and the original position.
If the difference is a little, return the control to the original position.

Procedure :



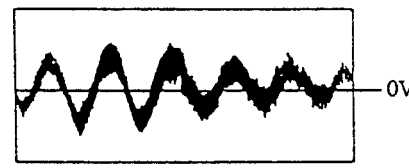

1. Keep the set horizontal. (If the set is not kept horizontally, this adjustment cannot be performed due to the gravity against the 2-axis device.)
2. Insert test disc TCD-782 (YEDS-18) and play back the second composition.
3. Connect an oscilloscope to TP6 (TR IN) of the main board.
4. Adjust SFR103 (TG) so that the waveform appears as shown in the figure below.(tracking gain adjustment)




VOLT/DIV : 50 mV
TIME/DIV : 1 mS

- Incorrect example (The fundamental wave appears as compared with the waveform adjusted.)

Low tracking gain




VOLT/DIV : 50 mV
TIME/DIV : 1 mS

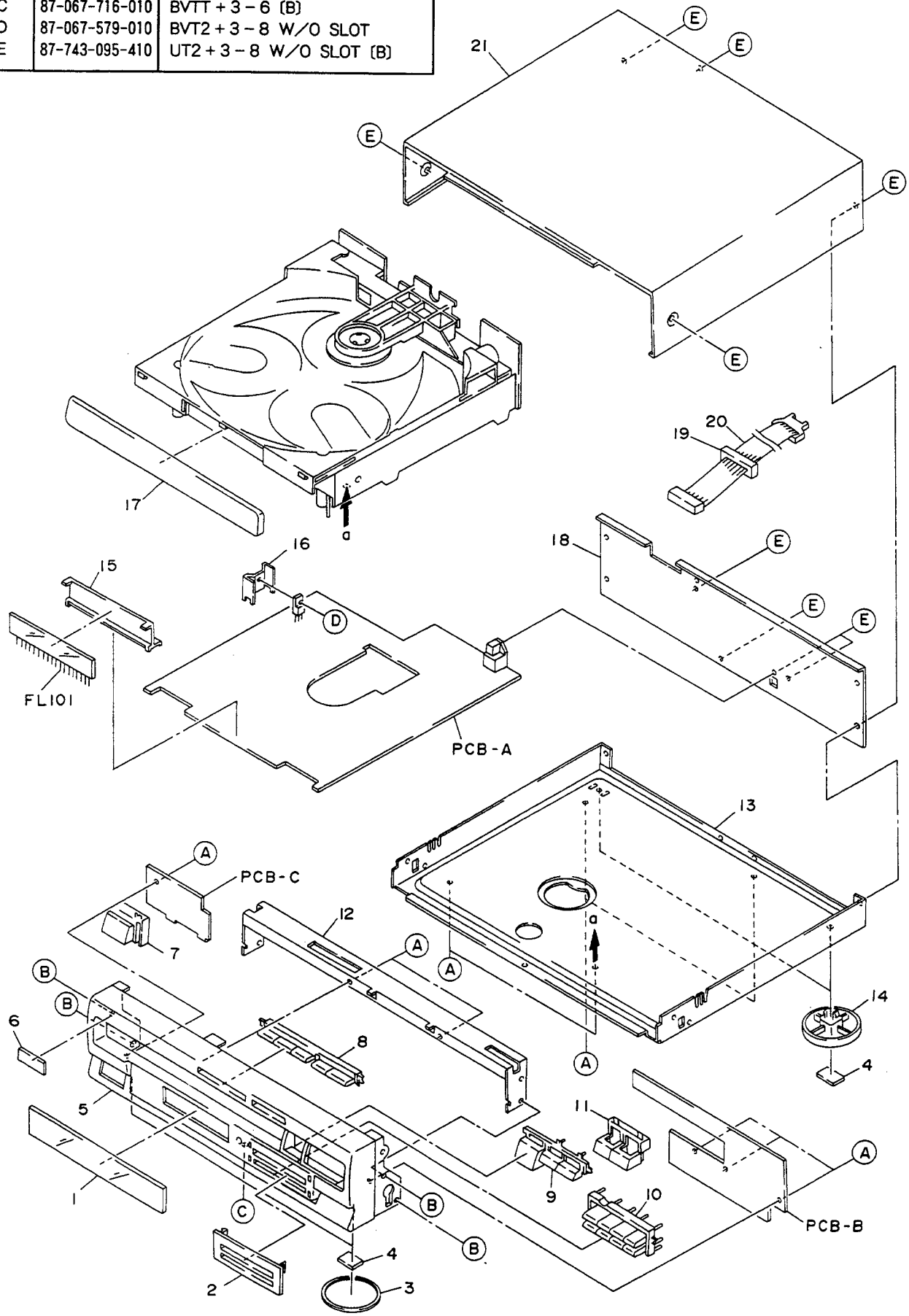
High tracking gain

The frequency of the fundamental wave is higher than that in low gain.

VOLT/DIV : 50 mV
TIME/DIV : 1 mS

# EXPLODED VIEW – 1

| REF. NO. | PART NO. | DESCRIPTION |
|---|---|---|
| A | 87-067-703-010 | BVT2 + 3 – 10 W/O SLOT |
| B | 87-591-094-410 | QIT + 3 – 6 |
| C | 87-067-716-010 | BVTT + 3 – 6 (B) |
| D | 87-067-579-010 | BVT2 + 3 – 8 W/O SLOT |
| E | 87-743-095-410 | UT2 + 3 – 8 W/O SLOT (B) |

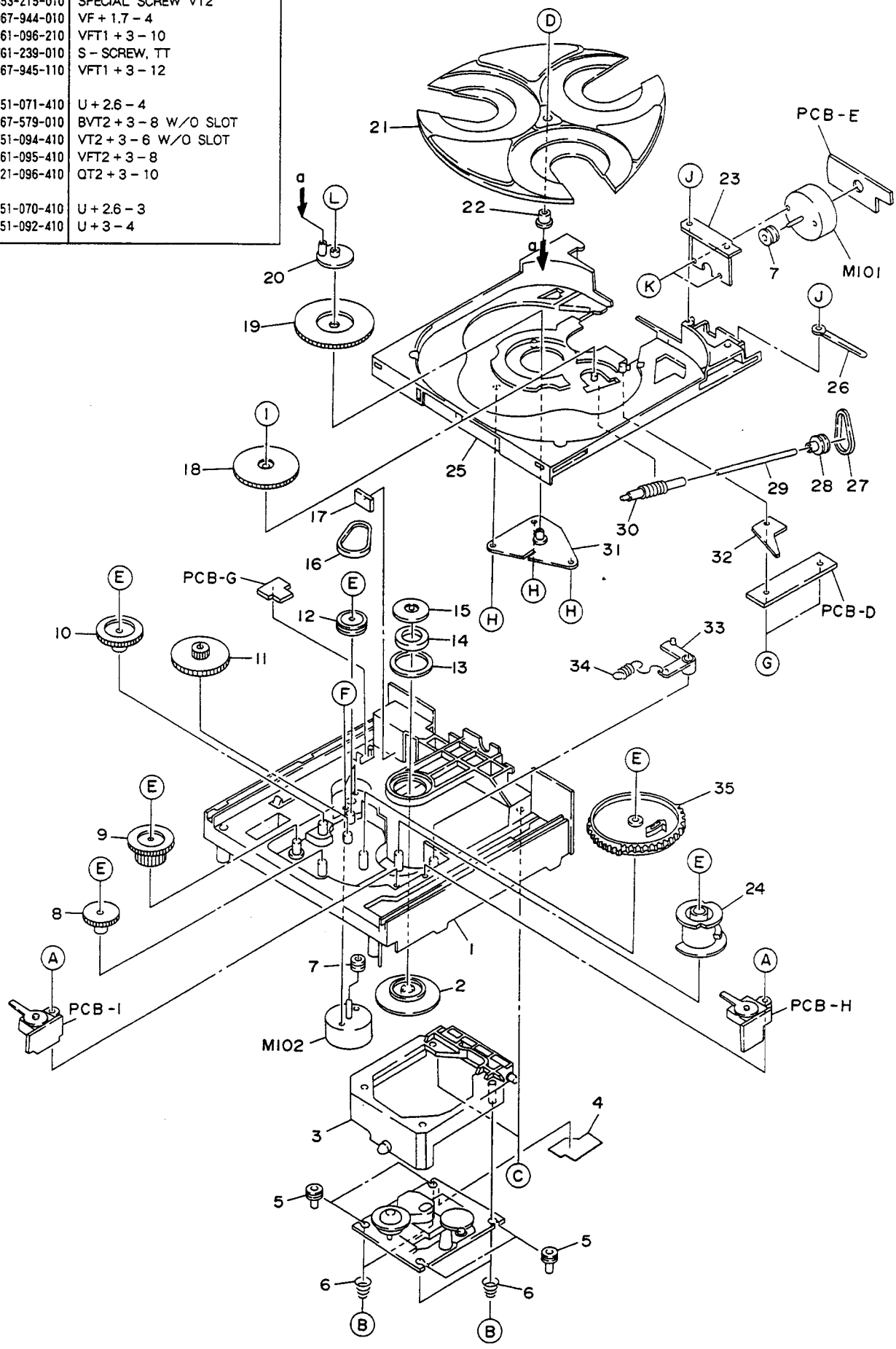


# MECHANICAL PARTS LIST

| PART NO. CHANGED TO | REF. NO. | PART NO. | DESCRIPTION | COMMON MODEL | Q'TY |
|---|---|---|---|---|---|
| | 1-1 | ★82-VM1-011-010 | WINDOW | ※ | 1 |
| | 1-2 | ★82-VM1-012-010 | PANEL, PROGRAM | ※ | 1 |
| | 1-3 | ★81-VW1-015-010 | RING, FOOT | | 2 |
| | 1-4 | ★81-VW1-201-010 | FELT 20 - 15 - 2 | | 4 |
| | 1-5 | ★82-VM1-001-010 | CABINET, FRONT | ※ | 1 |
| | 1-6 | ★81-DS1-011-019 | BADGE, AIWA | | 1 |
| | 1-7 | ★82-VM1-007-010 | KEY, POWER | ※ | 1 |
| | 1-8 | ★82-VM1-006-010 | KEY, DISC | ※ | 1 |
| | 1-9 | ★82-VM1-005-010 | KEY, SEARCH | ※ | 1 |
| | 1-10 | ★82-VM1-008-010 | KEY, PROGRAM | ※ | 1 |
| | 1-11 | ★82-VM1-004-010 | KEY, PLAY | ※ | 1 |
| | 1-12 | --- | CHASSIS, FRONT | | 1 |
| | 1-13 | --- | CHASSIS, MAIN | | 1 |
| | 1-14 | ★81-VX1-012-019 | FOOT, REAR | | 2 |
| | 1-15 | ★81-VM1-203-010 | GUIDE, FL | | 1 |
| | 1-16 | --- | HEAT SINK | | 1 |
| | 1-17 | ★82-VM1-010-010 | PANEL, TRAY | ※ | 1 |
| | 1-18 | ★82-VM1-009-010 | PANEL, REAR (Y) | ※ | 1 |
| | 1-18 | ★82-VM1-015-110 | PANEL, REAR (YNE) | ※ | 1 |
| | 1-19 | ★89-VT5-202-010 | BUSHING, CORD | | 1 |
| | 1-20 | ★89-VX5-618-010 | FLAT CABLE 11P FG | | 1 |
| | 1-21 | ★82-VM1-002-010 | CABINET, STEEL (Y) | ※ | 1 |
| | 1-21 | ★82-VM1-021-018 | CABINET, STEEL (YNE) | ※ | 1 |

# EXPLODED VIEW – 2

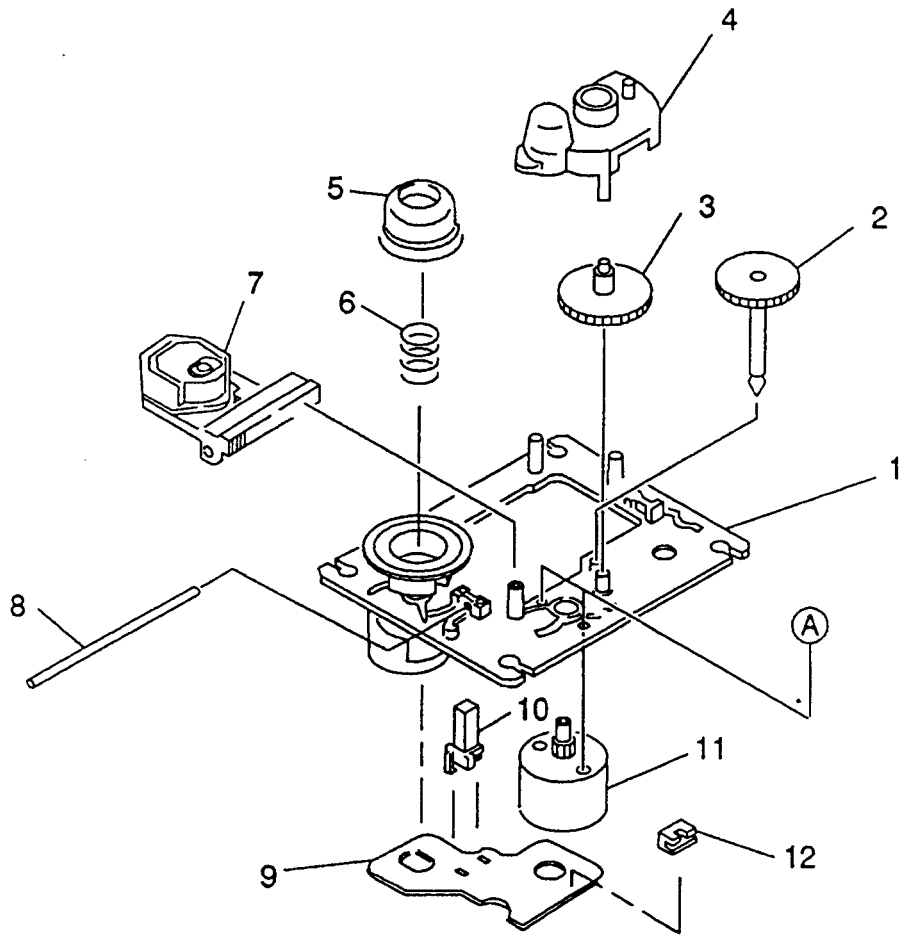
| REF. NO. | PART NO. | DESCRIPTION |
|---|---|---|
| A | 81-653-215-010 | SPECIAL SCREW VT2 |
| B | 87-067-944-010 | VF + 1.7 – 4 |
| C | 87-561-096-210 | VFT1 + 3 – 10 |
| D | 81-Z61-239-010 | S – SCREW, TT |
| E | 87-067-945-110 | VFT1 + 3 – 12 |
| F | 87-251-071-410 | U + 2.6 – 4 |
| G | 87-067-579-010 | BVT2 + 3 – 8 W/O SLOT |
| H | 87-751-094-410 | VT2 + 3 – 6 W/O SLOT |
| I | 87-761-095-410 | VFT2 + 3 – 8 |
| J | 87-721-096-410 | QT2 + 3 – 10 |
| K | 87-251-070-410 | U + 2.6 – 3 |
| L | 87-251-092-410 | U + 3 – 4 |



| PART NO. CHANGED TO | REF. NO. | PART NO. | DESCRIPTION | COMMON MODEL | Q'TY |
|---|---|---|---|---|---|
| | 2-1 | ★81-ZG1-201-010 | CHASSIS, MECHANISM | | 1 |
| | 2-2 | ★81-ZG1-228-010 | HOLDER, MAGNET | | 1 |
| | 2-3 | ★81-ZG1-226-010 | MECHANISM HOLDER ASSY | | 1 |
| | 2-4 | ★81-ZG1-241-010 | SHEET, CD MECHANISM | | 1 |
| | 2-5 | ★81-ZG1-230-010 | G – CUSHION, MECHANISM | | 4 |
| | 2-6 | ★81-ZG1-231-010 | C – SPRING, MECHANISM | | 4 |
| | 2-7 | ★81-ZG1-212-010 | PULLEY, LOADING MOTOR | | 2 |
| | 2-8 | ★81-ZG1-209-010 | GEAR, TRAY RELAY | | 1 |
| | 2-9 | ★81-ZG1-208-010 | GEAR, TRAY B | | 1 |
| | 2-10 | ★81-ZG1-207-010 | GEAR, TRAY A | | 1 |
| | 2-11 | ★81-ZG1-210-010 | GEAR, RELAY | | 1 |
| | 2-12 | ★81-ZG1-211-010 | PULLEY, RELAY | | 1 |
| | 2-13 | ★81-ZG1-242-010 | SHEET, MAGNET | | 1 |
| | 2-14 | ★86-531-219-010 | MAGNET, CLAMPER | | 1 |
| | 2-15 | ★81-ZG1-229-010 | PLATE, MAGNET | | 1 |
| | 2-16 | ★81-ZG1-232-010 | BELT, TRAY | | 1 |
| | 2-17 | ★81-ZG1-238-010 | CUSHION, TRAY IN | | 1 |
| | 2-18 | ★81-ZG1-222-010 | WORM WHEEL, TT | | 1 |
| | 2-19 | ★81-ZG1-202-010 | GEAR, MAIN | | 1 |
| | 2-20 | ★81-ZG1-224-010 | TT LEVER ASSY | | 1 |
| | 2-21 | ★81-ZG1-002-010 | TURNTABLE | | 1 |
| | 2-22 | ★81-ZG1-219-010 | SHAFT, TRAY | | 1 |
| | 2-23 | ★81-ZG1-215-010 | HOLDER, MOTOR | | 1 |
| | 2-24 | ★81-ZG1-206-010 | GEAR, MECHANISM CAM | | 1 |
| | 2-25 | ★81-ZG1-001-010 | TRAY | | 1 |
| | 2-26 | --- | BINDER, WIRE | | 1 |
| | 2-27 | ★81-ZG1-233-110 | BELT, TT | | 1 |
| | 2-28 | ★81-ZG1-236-010 | PULLEY, TT MOTOR | | 1 |
| | 2-29 | ★81-ZG1-216-010 | SHAFT, WORM | | 1 |
| | 2-30 | ★81-ZG1-221-010 | WORM GEAR, TT | | 1 |
| | 2-31 | ★81-ZG1-225-010 | TRAY PLATE ASSY | | 1 |
| | 2-32 | ★81-ZG1-240-010 | P – SPRING, WORM | | 1 |
| | 2-33 | ★81-ZG1-213-010 | PLATE, CAM | | 1 |
| | 2-34 | ★81-ZG1-235-010 | E – SPRING, CAM | | 1 |
| | 2-35 | ★81-ZG1-205-110 | GEAR, TRAY CAM | | 1 |

# EXPLODED VIEW – 3

| REF. NO | PART NO. | DESCRIPTION |
|---|---|---|
| A | 87-261-032-210 | V+ 2-3 |




| PART NO. CHANGED TO | REF. NO. | PART NO. | DESCRIPTION | COMMON MODEL | Q. TY |
|---|---|---|---|---|---|
| | 3-1 | ★9X-262-513-310 | TT CHASSIS ASSY (W/MOTOR) | | 1 |
| | 3-2 | ★92-625-188-020 | GEAR, A | | 1 |
| | 3-3 | - - - | GEAR, B | | 1 |
| | 3-4 | ★92-625-544-010 | COVER | | 1 |
| | 3-5 | 92-625-187-010 | RING, CENTER | | 1 |
| | 3-6 | ★92-625-191-010 | SPRING, COMPRESSION | | 1 |
| | 3-7 | 98-848-127-110 | PICK UP KSS-210A | | 1 |
| | 3-8 | ★94-917-565-010 | SHAFT, SLED | | 1 |
| | 3-9 | - - - | MOTOR PWB | | 1 |
| | 3-10 | 91-572-085-110 | SWITCH, LEAF (LIMIT) | | 1 |
| | 3-11 | ★9X-262-513-210 | SLED MOTOR ASSY | | 1 |
| | 3-12 | ★91-564-722-110 | CONNECTOR 6P | | 1 |